

E. R. STETTINIUS

LEND-LEASE



PENGUIN



SPECIAL

# An Atlas of Post-War Problems

by J. F. HORRABIN

A PENGUIN SPECIAL

Contains 44 maps, printed in two colours, illustrating the difficulties which the peace-makers will have to solve in order to lay the foundations of a better future

The sections are The Changing Map of Europe, Lessons of Last Time, Changes during the Present War, Problems of Communications, Problems of Reconstruction, Problems of Poverty, Problems of Power, Colonial Problems, China and the Far East.

"I have tried to select," says the author in his Foreword "subjects typical of others in various parts of the world which emphasize the paramount need for international collaboration after the War. International collaboration presupposes an 'Open Conspiracy' of intelligent citizens in every country. This book aims at providing them with material for study and discussion."

"Frank Horrabin's maps are a perennial source of instruction and delight. He has the extraordinary gift of throwing up the essentials of a complicated political problem in an easy diagrammatic form so that at a glance one becomes aware of the problem in a new perspective and in its broadest context."—*Empire*

"A storehouse from which many of us could profitably start our thinking about the world of the future."—*John O'London's Weekly*

"Should prove most useful in discussion groups and study circles."—*Nottingham Guardian*

"An unexpected bargain. Horrabin's genius discloses at a glance the historic and fantastic nature of Czecho-Slovakia's railways. Flights up the foibles of Versailles map-making in a flash estimates the chances of a Danube Valley Association in one bold map. This atlas is the most brilliant of Horrabin's map books."—*Star*

PENGUIN BOOKS

# LEND-LEASE

BY EDWARD R. STETTINUS, JR.

(S 150)



92-1334  
STE

first transfers of defence material to Britain were arranged for three hours after the Act became law. ~~such rapid action was possible because it had~~ reached eleven six thousand supplying aid

who for over a year had been in close touch with defence output as ~~Chairman of the War Relocation Authority~~

Lense: how the idea of the plan first rose after the exchange of destroyers and naval bases between Britain and America in 1940, how American opinion was prepared for the Act, how American production multiplied by leaps and bounds to meet the defence needs of Britain, the U.S.S.R., China, and the smaller

of the common struggle



## THE AUTHOR

EDWARD REILLY STETTINIUS son of a brilliant Wall Street

Mountains Entering industry instead of the ministry to  
which at one time his chamberlain had turned him, and with

A PENGUIN SPECIAL

# LEND-LEASE

*Weapon for Victory*

BY

EDWARD R STETTINIUS, JR



PENGUIN BOOKS

HARMONDSWORTH MIDDLESEX ENGLAND

245 FIFTH AVENUE NEW YORK U.S.A.

in full I am sure in the records written by the commanders of armed forces and by the civilian officials who are rendering memorable service to their country

I cannot let this book be published without first explaining the Lend Lease Administration itself is only a small part of Lend Lease machinery which we have built up for sending supplies to the other nations fighting the Axis. The Munitions Assignment Board, the War Department and the Navy are entrusted with the Lend Lease munitions programme, can arms production is allocated by military men on the military strategy. Lend Lease in merchant shipping is the of the War Shipping Administration. The War Production and the War Food Administration make the allocations of industrial resources and of our food for the Lend Lease programme. The Department of Agriculture buys Lend Lease food, the Procurement Division of the Treasury Department buys Lend Lease industrial items, the Maritime Commission builds Lend Lease ships. The State Department negotiates the Lend Lease agreements which set forth the terms under which our aid is given.

Just as the policy of Lend Lease is an expression of the will of the American people as a whole, so the carrying out of the Lend Lease programme is in truth a combined operation of the United States Government as a whole in which most of the Executive Departments and agencies and the Congress participate.

The Office of Lend Lease Administration itself has played a dual role. First, we have been concerned with the requests of our allies for the host of industrial supplies and raw materials, food and other agricultural commodities, the ships, the shipping services and repairs, and the many other supplies and services which are as necessary as weapons in waging war. But we have had another and equally important duty. That is to keep over Lend Lease operations and policy in every field and to report regularly on all phases of the programme to the President and Congress. Our records are the point at which the over-all story of the aid we have given and received under Lend Lease is concentrated. It is for this reason, and not because the Lend Lease Administration would desire to represent the public, that we are

always be proud to have led. It is composed of men of many different skills and backgrounds. There are civil servants who have been in the Government for many years. We look for that without which we are Army and

Navy officers whose long experience in the strategy of supply is of constant aid in making Lend Lease a vital weapon of war. There are business men, lawyers, bankers, engineers, economists, and men from other walks of life, many of whom have come to Washington at great personal sacrifice. Upon them we have leaned heavily for that practical and technical knowledge in a multitude of different fields without which our plans could not possibly be turned into realities.

To the man who gave me my first job John Lee Pratt of Virginia, I shall ever be grateful for giving up his well-earned retirement at "Chatham" to serve us so faithfully with his sound judgment. And to the others I am no less grateful—to Thomas B. McCabe, who ably carried many heavy burdens as Deputy Administrator and who acted as Administrator during my trip to Britain, to Bernhard Knollenberg distinguished lawyer and Librarian of Yale, who joined us relatively late but has served effectively as Senior Deputy Administrator, to Oscar S. Cox, our General Counsel, whose advice has always proved so very helpful to the Deputy Administrators, Arthur B. Van Buskirk, who has so ably headed the Operations Staff, and Philip Young who has served Lend Lease so well since the beginning, to our Senior Assistant Administrators, Major General Charles M. Wesson, John E. Orchard, William V. Griffin, Laurence J. Martin and their staffs, to my special assistants, John D. East, Hayden Raynor, Samuel D. Boykin, and Ira C. Hopkins, to our Assistant Administrators, Charles Denby, Rupert Emerson, John N. Hazard, Joseph M. Juran, Harry M. Kurth, Robert J. Lynch, H. C. L. Miller, James W. Pope, J. Franklin Ray, Jr., G. Ruhland Rebmann, Jr., William M. Simmons, Lt.-Commander Donald Watson and their staffs to our Associate General Counsel, George W. Ball, and the other members of the legal staff, to our consultants, Brigadier General George R. Spalding and Dr. George B. Waterhouse, and to all the others who have served the Lend Lease Administration so well. To the men who have served Lend Lease so loyally and effectively as heads of the overseas missions—W. Averill Harriman, Frederic W. Ecker, Walter S. Robertson, Charles A. Ferguson, Livingston L. Short, Blackwell Smith and all the others—we in Washington owe an enormous debt. They and their able staffs have been our indispensable eyes and ears abroad.

It would be impossible for me even to begin to name the men throughout the other departments and agencies of the Government whose magnificent co-operation has made possible the carrying out of the Lend Lease programme.

This book is in a very real sense the product of all these men, both

## PREFACE

inside and outside the Lend-Lease Administration  
 imagination, the  
 would have been

EDWARD R STETTINIUS, JR.

"The Horse Shoe"

Rapidan, Culpeper County, Virginia,  
 September 18th, 1943

The manuscript of this book was written during the spring and summer of this year. When I was appointed by the President as Under-Secretary of State, my active direction of Lend-Lease affairs ended. But I have been urged by my associates to continue with the plans for publishing this book so that the American people might know the full story of Lend-Lease.

Washington, D C

E R S JR

October 15th, 1943



## INTRODUCTION

LEND-LEASE is a weapon of war. It was forged at a time when the freedom loving peoples of the world were in mortal peril.

It has been tested in the fire of war now for over three years, and it has proven a powerful weapon for victory. In the midsummer of 1942, when I was Secretary of the Lend Lease Administration, I found

that the flow of weapons from the United States, although still only a thin stream, was rising as we prepared for our first combined offensive—the landings in North

Africa. But American tools and raw materials were already reaching the arsenals of Britain in great volume. The flow of weapons from the United States, although still only a thin stream, was rising as we prepared for our first combined offensive—the landings in North Africa.

With the help of Lend Lease, the British food crisis had been

American forces were just then arriving in substantial numbers in Britain. We had still to make our first all-American air raid over the continent. But British workmen were already busy building with British materials the camps, barracks, airfields, hangars, machine shops and other installations which our forces would require. And machinery was rapidly being perfected for providing to our forces, without any payment by us, the many thousands of war supplies that we would need from British sources.

Now in April of 1944, it is my privilege to be in Britain again. Two years have worked profound changes. All Britain has been transformed into the greatest military base in the history of the world. Day after day our combined air power has been delivering tremendous blows over the continent. And in this island fighting forces of many United Nations, under a unified allied command, have been welded into one powerful fighting team. Their equipment represents the pooled resources and war production of many nations. Through Lend Lease, reverse Lend Lease, and other forms of mutual aid, we have seen to it that these forces are equipped to deliver the hardest possible blows against the enemy.

These same two years have worked profound changes on all the other supply fronts of the war. In the summer of 1942, Burma

Lend-Lease is a vital mechanism of war supply, but is also, as I visualize it, something of even greater importance. It is a concrete recognition of the truth that the freedom loving peoples of the world can defend their freedom only by working together and fighting together.

That is how we have turned the tide of Axis aggression, that is how we shall win unconditional victory over our common enemies, and that is how, in a spirit of co-operation and mutual confidence, we can preserve in the peace to come the freedoms for which we now fight with all of our combined strength.

EDWARD STETTINIUS, Jr

*American Embassy,  
London, England*

*25th April, 1944*

## PART IV

## THE UNITED NATIONS

CHAP		PAGE
XV.	LEND-LEASE ON THE ROADS TO TOKYO—I . . .	146
XVI.	LEND-LEASE ON THE ROADS TO TOKYO—II . . .	157
XVII.	LEND-LEASE ON THE ROADS TO TOKYO—III . . .	164
XVIII.	SUPPLIES FOR THE SOVIET—I . . .	172
XIX.	SUPPLIES FOR THE SOVIET—II . . .	179
XX.	SUPPLIES FOR THE SOVIET—III . . .	187
XXI.	AID TO THE UNDEFEATED . . .	193
XXII.	A VISIT TO WAR-TIME BRITAIN—I . . .	200
XXIII.	A VISIT TO WAR-TIME BRITAIN—II . . .	211
XXIV.	A VISIT TO WAR-TIME BRITAIN—III . . .	220
XXV.	LEND-LEASE IN REVERSE . . .	227
XXVI.	LEND-LEASE AND COMBINED OPERATIONS—I . . .	237
XXVII.	LEND-LEASE AND COMBINED OPERATIONS—II . . .	247
XXVIII.	LEND-LEASE AND THE UNITED STATES . . .	258

## PART V

XXIX.	WEAPON FOR VICTORY . . .	268
-------	--------------------------	-----

## APPENDICES

I.	THE LEND-LEASE ACT . . .	272
II.	RUSSIAN MASTER LEND-LEASE AGREEMENT . . .	275
III.	RECIPROCAL AID AGREEMENT WITH UNITED KINGDOM . . .	278
	INDEX . . .	281

## LIST OF ILLUSTRATIONS

Photogravure Plates (between pages 160 and 161)

- | PLATE |   |
|-------|---|
| 1     | Destroyers for Britain                                  |
| 2     | The President Proposes Lend Lease to Congress           |
| 3     | "Black Out Time"  |
| 4     | American Tanks in Egypt                                 |
| 5     | Lend Lease Lunch for British War Workers                |
| 6     | The Burma Road  |
| 7     | The Burma Road—a Close-up                               |
| 8     | British Aircraft Carrier under Repair                   |
| 9     | Signing the Moscow Protocol                             |
| 10    | U S Planes for Britain on Norwegian Freighter           |
| 11    | The Combined Chiefs of Staff                            |
| 12    | General Marshall and Richard Casey, Australian Minister |
| 13    | Australian Tank Crew Services a "General Grant"         |
| 14    | Reverse Lend Lease—New Ten-Story Hospital               |
| 15    | American Tanks in India                                 |
| 16    | Gun-Maker in Indian Factory                             |
| 17    | India Makes Steel for the United Nations                |
| 18    | Lend Lease Liberty Ship for China                       |
| 19    | P-40 Planes of the Flying Tigers                        |
| 20    | Supplies for Russia—The Trans Iranian Railway           |
| 21    | Americans on the Trans Iranian Railway                  |
| 22    | The Red Army gets Lend Lease Food                       |
| 23    | Planes for Russia at Iranian Airport                    |
| 24    | American Fliers use British Spitfires                   |
| 25    | American Cheese on an English Canal Barge               |
| 26    | Lend Lease Supplies in North Africa                     |
| 27    | Bound for Suez—a "General Sherman"                      |
| 28    | Lend Lease Act is Extended                              |
| 29    | Lend Lease Anniversary                                  |
| 30    | The New Yorker on Lend Lease Food                       |

## ILLUSTRATIONS IN TEXT

	PAGE
Decline of British Dollar Resources . . . . .	62-3
Loans to Allies in First World War . . . . .	81
Dehydration of Lend-Lease Food . . . . .	96
Supply Routes to China . . . . .	101
Middle East Supply Routes . . . . .	123
Food from Australia and New Zealand . . . . .	153
Lend-Lease Aid to Soviet Union . . . . .	185
Lend-Lease in Britain . . . . .	203
British Agricultural Production . . . . .	214
Britain's Food Supply . . . . .	218
Total Goods we have Lend-leased . . . . .	236
Lend-Lease and Total War Costs . . . . .	257
How we Shared our Production . . . . .	261
Our Food Supply and Lend-Lease . . . . .	264

*Maps and Pictograms by Irving Geis*

# LEND-LEASE

## PART I

### PATTERN FOR VICTORY

#### CHAPTER I

#### PATTERN FOR VICTORY

"SUPPOSE my neighbour's house catches fire, and I have a length of garden hose four or five hundred feet away. If he can take my garden hose and connect it up with his hydrant, I may help him to put out the fire.

"Now what do I do? I don't say to him before that operation, 'Neighbour, my garden hose cost me \$15, you have to pay me \$15 for it.'

"What is the transaction that goes on? I don't want \$15—I want my garden hose back after the fire is over.

The President of the United States was talking to the reporters crowded into his oval office for the weekly press conference. It was December 17th, 1940. To the newsmen round his desk he described a simple event that might take place any day in any American town—a man helped his neighbour when the neighbour was in trouble. But in helping to put out a fire in his neighbour's house, the man who loaned the hose was also helping himself, for the fire which menaced his neighbour's house also menaced his own. As the story made clear, sensible neighbours do not waste time bargaining over the price of a hose when there is a fire going on. Their one idea is to get the hose working as fast as possible.

The President told the story of the garden hose for a purpose. At the time he spoke, the most terrible conflagration the world had ever seen was already raging. It had started in 1931 with a small fire in Manchuria that seemed far away and of no great concern to the rest of the world. Then in 1937, the fire of Japanese aggression broke out again with new fury and now had grown so big that it threatened to overwhelm all of China and to spread from there all over Eastern Asia and far out into the Pacific. In Europe ever since 1933, there had been a smouldering fire that

flared up from time to time in sudden bursts which consumed one nation after another—Ethiopia, Spain, Austria, Albania and Czechoslovakia

But the nations not yet touched by the fire did not get together to put it out while it was still smouldering. In September 1939 the fire suddenly broke into a furious blaze of Nazi aggression and in the ten months that followed, Poland, Denmark, Norway, Holland, Luxembourg, Belgium and finally France were consumed. Now in December 1940, the British were fighting a desperate, lone battle to keep the fire from spreading across the few short miles of the Channel and out into the Atlantic towards both North and South America.

We in the United States had watched this conflagration spread over the world with a curiously divided state of mind. As in Britain and France, the root of most of our thinking about international affairs was a deep hatred of war. But that very hatred had tended to push our thinking in two different directions.

We were determined, on the one hand, that the United States should not suffer the tragedy of war again. Beginning in 1935, we had erected an elaborate system of Neutrality Acts intended to keep war away from this hemisphere by cutting us off from nations involved in war anywhere else in the world. Yet most Americans felt instinctively that we could not stay at peace if the rest of the world were at war. We recognized this when we took the lead in securing from all the nations of the world in 1929 the pledge of the Kellogg-Briand Pact renouncing war as an instrument of national policy. We had refused to recognize the military conquests of Japan, Italy and Germany which violated this pledge. Again and again, we had emphasized our desire for peace and for a peaceful solution of all problems between all nations.

As the world crisis steadily deepened in the thirties, we were faced ever more clearly with the brutal fact that there were three nations in the world determined on aggression. If we co-operated with other peace-loving nations in taking really effective measures to stop the aggressors before they came closer to us, there was always the possibility that we might have to go to war with them in order to finish the job. Yet if we sat back and let the aggressors go on and on with their march of conquest, we might end up by having to fight alone against the world to protect our own soil. While we hesitated, the power of the Axis grew steadily and the danger to us grew greater.

With the benefit of hindsight, we Americans can now see, of course, that had we and the other democracies been willing to stop Japan in 1931, Italy in 1935, and Germany in 1936, by force if

necessary, we would have been spared the necessity of fighting the greatest war in history. But it was hard for us, then, to accept the fact that there were powerful nations in the world bent on a course of unlimited conquest—by decent, by treachery, by economic and political infiltration, and finally by force of arms.

When the President said in 1917 that if the

sta  
ma  
affi  
wa:  
ide

wake up to the facts. The British and the French woke up a little earlier because they were nearer the danger, but it was not early enough to save France. Not until late in the spring of 1940, when Britain was left alone in mortal danger and control of the Atlantic was in the balance, did we Americans finally make up our minds to prepare ourselves against attack.

Now, in December 1940, the United States was faced with another brutal fact. Britain, China and the other nations battling the Axis could not get enough arms from this country to keep on fighting unless we became something much more than a friendly seller on a business basis. We had, it is true, taken a few important emergency steps—loans to China, sales of old World War guns to Britain after Dunkirk, trading fifty over age destroyers for naval bases. And all the time we were co-operating more and more closely with these nations in their purchasing programmes here. But now something much bigger was needed.

The solution that the President proposed to the nation at his press conference on December 17th, 1940, was embodied in his story of the garden hose. We should act as a nation in the same way that an individual American would act if a raging fire had broken out in other houses near by. We should send all the equipment we could possibly spare from the building of our own defences to our neighbours who were already fighting the blaze. We would defend our own home by helping them to defend theirs. As for the settlement, that could wait until the danger had passed and we could take stock of how we and our neighbours stood. That proposal was the essence of what we now call "Lend Lease."

In the three months that followed, the American people debated Lend Lease as no issue to our foreign policy had ever been debated before. As a nation, we finally thought through the entire problem of our national security in a dangerous world. The debate reached from the halls of Congress to every fireside in America. The discussions grew violent and sometimes bitter. But



It was really not necessary to argue that Lend-Lease should be extended. The story of our united victories and of the Axis forced back on the defensive all over the world spoke for itself. On March 9th 1943, the House of Representatives voted 407 to 6 to extend the Act. Two days later, on the second anniversary of the signing of the original Act, the Senate extended it without a single dissenting vote—82 to 0. It was a vote of confidence. I felt, not merely for Lend Lease, but for the whole principle of combined operations by the United Nations against our common enemy.

A few months later, on the 9th of July, 1943, I had the privilege of attending a dinner in honour of General Henri Giraud at the White House. It was a simple meal and a military one. Almost all the guests were French officers or officers from our own Army and Navy. The French officers spoke with emotion of the Lend Lease military equipment from the United States which was making possible the rebirth of the Army of France.

Towards the end of the meal, the President tinkled on his glass and made a short speech of tribute to the French people. Then he paused for a moment and went on:

'While we have been at dinner, I have received an important message. At this moment the soft under belly of the Axis is being attacked. American, British and Canadian soldiers are landing in Sicily. French observers are with them. This is the first step in the invasion of the continent and in the liberation of France.'

The United Nations were on the march again. The fortress of Europe was being cracked.

My mind went back to another day three years before. That was before we had decided that the defence of nations fighting the Axis was vital to our own defence. That was before there were United Nations. Belgium had just surrendered. The British were trapped in Flanders. France was falling. There was imminent danger that the United States might have to stand alone against a hostile world.



and losing hundreds of thousands of lives, but never weakening in the will to resist. Now the Chinese were working to prepare their undeveloped western provinces and their new capital at Chungking as the centre for continuing resistance. Light machinery from the occupied areas was being carried by river-boat or dragged by hand and donkey-cart 1,000 miles across country to form the nucleus of new arsenals far in the interior, which would turn out guns, bombs and ammunition for the Chinese fighting forces. But China obviously would have to get as many supplies as possible from the outside world—from the industries of what the Generalissimo called the "friendly nations and opponents of aggression in the world."

The United States was among these. Since January 1932, we had followed a policy of non-recognition of any territorial changes brought about by force. But our efforts to invoke "moral force" and to persuade the Japanese to submit the dispute to peaceful settlement had been unsuccessful. Although we continued these efforts right up to Pearl Harbour, we proceeded in 1938 with other measures of a more practical character. That summer, Secretary of State Cordell Hull asked all airplane manufacturers in the United States not to sell planes to countries which used them for indiscriminate attack on civilians as Japan was doing in China, and although there was no statutory power to enforce the "moral embargo," exports of American planes to Japan stopped. Then, with the arrival of Chen, we took our first positive step to help China.

Chiang Kai-shek's emissary went to Secretary Morgenthau to discuss the possibilities of a United States Government loan to China. Although the Neutrality

act prohibited the use of American ships for the purchase of arms and ammunition, but they could be used to buy other supplies essential to China's war effort. Repayment was to be made in shipments of tung oil—an essential industrial product—over the next five years.

The loan was very small, but it was a significant step. During the last ninety days of 1938, the Soviet Union and Great Britain also took steps to give China material support. In October, the Soviet Government entered into a barter agreement to provide China with \$50,000,000 worth of Russian planes, tanks, lorries and guns. Two days after our own loan agreement, the British Govern-

French took the risk, but the British Government placed almost no orders at all in the United States after Munich.

On March 15th 1939, while the French were busy buying planes here Hitler seized what was left of Czechoslovakia after Munich. One week later, the Nazis occupied Memel, and Goebbels' propagandists began to turn the heat on Poland. In April, Mussolini sent his troops into Albania. The forces of aggression were on the move again.

On May 27th and again on July 14th, Secretary Hull asked Congress to repeal the embargo provisions of the Neutrality Act. This, he said, would be a means of discouraging the aggressors from causing a new world war. The best way to keep this country out of war, he emphasized, was to do all we could to prevent a major war from breaking out.

The once overwhelming majority behind the Neutrality Law was shrinking as more and more people saw that it compelled us to sit idly by while the Axis nations with each new conquest grew stronger and better able to attack us when our turn came. But in July 1939, there was still strong opposition to any change in the law, and Congress adjourned without taking any action.

On September 1st, 1939, Hitler's forces smashed into Poland, and two days later, in accordance with their treaty obligations against this new aggression, France and Britain came to Poland's support. The President first proclaimed the neutrality of the United States and placed an embargo on all shipments of arms to any of the belligerent nations, as he was required to do by the Neutrality Act. Then on September 13th, he called Congress to meet in special session in order to reconsider the arms embargo.

The debate that followed was a significant forerunner of the Lend Lease debate a year and quarter later. In the main, those who opposed repeal of the embargo believed that the United States could remain safe regardless of what happened in Europe and Asia. They regarded the Atlantic and Pacific Oceans and the air above them more as barriers than as highways for attack upon us. Therefore they did not believe it essential to the security of the United States that these oceans and the shores opposite our own be always in the control of ourselves and of friendly, peaceful nations. They believed we entered the last war, not because our vital interests were threatened, but because we were dragged into it by "incidents" involving American property and lives, by cunning allied propaganda, or by the selfish interests of international bankers and armament manufacturers. The Neutrality Act was their answer to the desire of all Americans to remain at peace.

Those who wanted to amend the Neutrality Act believed in the

main that aggression by any of the Great Powers anywhere was likely to lead to threats against our own safety. They believed particularly that the defeat of Great Britain and France by Nazi Germany would be a blow to our security in the Atlantic, just as the continued military expansion of Japan would be a blow to our security in the Pacific. They differed on how far American security might require us to go in order to prevent an Axis victory, but they agreed that as a minimum we should permit England and France to buy arms here for cash and carry them away in their own ships.

The issues were not generally as sharply defined in the debate on the arms embargo as we can see them looking back today, and there were many shadings of opinion on both sides, but these were in essence the points of view that underlay the votes in Congress and the popular opinion of the time. A Gallup poll taken

in September and April 1940 showed that 70 per cent  
of the population was in  
favor of the embargo  
in 1939,

Three days later, a British Purchasing Commission was established in the United States, headed by Arthur B. Purvis. I knew Purvis well. He was a remarkably able and vigorous man who had come to Canada from Great Britain as a young man after the last war. By the time he was thirty-five, he had risen to the presidency of Canadian Industries, Ltd., the great Canadian chemical company. Like Lord Lothian, then the British Ambassador, he always seemed to me as much American as British in his way of going about things. Purvis became the key figure of British war purchasing in the United States, never sparing himself and working as hard, I believe, as any man I have ever known to get the weapons Britain needed in her critical hour. His sudden death in an air accident in Britain in August 1941, like the death of Lord Lothian eight months before, was a tremendous loss to the British.

With the establishment of the British Purchasing Commission, the French combined their separate purchasing agencies in the United States in a single mission under Jean F. Bloch-Lainé. Soon afterwards the supply programmes of the two allies were co-ordinated by the establishment of the Anglo-French Co-ordinating Commission under Jean Monnet in London and the Anglo-French Purchasing Board under Purvis in this country.

On December 6th, 1939, the President appointed a Liaison Committee to assist and to watch over the entire foreign purchasing programme. Secretary Morgenthau was named to direct the work

## CHAPTER III

## DUNKIRK AND THE FALL OF FRANCE

THE first detachments of the survivors of Dunkirk came ashore at Dover on May 29th, 1940. Friends of mine who saw them land told me later that they came ashore like sleep-walkers, exhausted and stunned after ten days of constant bombardment and desperate retreat. But they would need more than sleep and food and the healing of battle wounds before they could fight again. Left on the roads to Dunkirk and on the beaches were all their tanks, their lorries, their artillery and most of their lighter weapons as well. These had been Britain's most experienced and best-equipped troops. There were not enough arms left in the United Kingdom to re-equip them, much less to provide arms for the Home Guard being raised with all possible speed.

An urgent message came to the President from Prime Minister Winston Churchill. Could anything be done to send more arms at once for the defence of England and what was left of France—if France held out? This was an immediate need. It could not be answered with arms that were not yet manufactured.

Orders went out from the White House for action. The only possible sources of guns and planes for immediate shipment were our own Army and Navy stocks. At the Treasury they had already begun investigating the problems involved. Now there were hasty conferences between the British, the French, the Army and Navy, the State Department, and the Treasury Department concerning the possibility of transferring some of our reserve stocks of arms left over from the first World War.

There were two schools of thought as to whether, under international law, a non-belligerent government should sell arms directly to a belligerent government, although there was no question that private citizens might do so. One school, holding to the nineteenth-century concept of neutrality which made no distinction between right and wrong or between aggressor and victim, believed that a non-belligerent government should not sell arms to either side. Another school believed that America's right of self-defence was involved. The Kellogg-Briand Pact outlawing war as an instrument of national policy, they maintained, had superseded the concept of neutrality developed during the nineteenth century, and had re-established the right of non-belligerent governments, clearly recognized in earlier international law, to discriminate against nations that committed acts of aggression. But, in any event, there was no doubt that the Army and Navy could turn back

arms to the manufacturers, and that the manufacturers could resell the equipment to the British and French. This plan also had the important advantage of enabling the War and Navy Departments to order immediately much needed new equipment on a trade-in basis. It was quickly adopted.

In the meantime, General Marshall had asked Major General Charles M. Wesson, Chief of Ordnance, and Major General Richard Moore, Assistant Chief of Staff, to go over the entire list of our reserve ordnance and munition stocks. It took less than forty-eight hours to decide what the Army could turn over as a reasonable risk in view of the vital importance to America's defence that Britain hold out. The first list included 500 000 Enfield rifles, some of them actually used in the last war, some never used, all manufactured in 1917 and 1918 and packed away in grease for more than twenty years. It included 900 75 mm field guns, 80 000 machine guns, 130,000 000 rounds of ammunition for the rifles, 1,000 000 rounds for the 75 s, an assortment of bombs, and small quantities of TNT and smokeless powder. Later in the summer another 250,000 rifles and additional equipment were added. This left the United States with enough World War stocks to equip 1,800 000 men, the number of men provided for under the long standing mobilization plan for use in case of war.

On Monday June 3rd, 1940, General Marshall approved the list. As he said later, for us "the military issue immediately at stake was the security of the British fleet to dominate the Atlantic." Most of the American fleet was in the Pacific.

Since every hour counted, it was decided that the Army should sell everything on the list to one concern, which could in turn resell immediately to the British and French. It was essential that the company have sufficient export and shipping experience and that it be big enough to handle the munitions orders which the Army wanted to place under the trade in arrangement. The Army wanted particularly to start building up our capacity to produce armour plate for tanks and ammunition for 90-mm. anti aircraft guns and 105 mm and 155 mm howitzers and guns.

General Wesson reached the conclusion that the United States Steel Export Company would best meet these requirements. He knew that I had just come to Washington, and on Tuesday the 4th of June, the day that the evacuation of Dunkirk was completed, he walked across Constitution Avenue from the old Munitions Building to my office in the Federal Reserve Building. He outlined the proposal and asked my assistance. I replied that I would like to help in every way possible, but that my resignation as Chairman of the United States Steel Corporation would take

effect at three o'clock that afternoon. I was sure, however, that he could count on the full support of my former colleagues, and immediately arranged for Irving S. Olds, my successor as Chairman of the Board, and Benjamin F. Fairless, the President of the Corporation, to meet General Wesson in Washington the following morning. I did not take part in the negotiations that ensued, but I followed them closely.

At Wednesday's meeting the General explained the whole plan and named the War Department's price—\$37,619,556.60. Olds and Fairless said they would undertake the assignment, subject to approval by the Steel Corporation's directors. They took the next train back to New York, and the following evening telephoned General Wesson that U.S. Steel would handle the transaction. The work of drafting the contracts was begun immediately.

The War Department had not waited for these negotiations to be completed. As soon as the list of equipment was approved on June 3rd, telegrams went out to Army depots and arsenals at Rock Island, Ill., Schenectady, San Antonio, San Francisco, Baltimore and other cities across the country to start packing the material for shipment.

The next day, Winston Churchill went before the House of Commons and revealed that 335,000 men had been saved at Dunkirk. But he did not disguise the enormous losses of material. "They had the first fruits of all that our industry had to give," he said, "and that is gone." Britain's war factories would "in a few months overtake the sudden and serious loss that has come upon us." "The war is the war."

There is no doubt that the British people were determined to fight on the beaches, we shall fight on the landing grounds, we shall fight in the fields and in the streets, we shall fight in the hills, we shall never surrender, and even if, which I do not for a moment believe, this Island or a large part of it were subjugated and starved, then our Empire beyond the seas, armed and guarded by the British fleet, would carry on the struggle, until, in God's good time, the New World, with all its power and might, steps forth to the rescue and the liberation of the Old.

As the Prime Minister spoke, stack after stack of guns for the defenders of Britain were being moved from America's arsenals to the railway sidings. By the end of the week more than 600 heavily loaded goods waggons were rolling towards the Army docks at Raritan, N.J., up the river from Gravesend Bay. Word had been flashed all along the line to give them right-of-way. At Raritan, special shifts of nearly a thousand men worked night



and day over Saturday and Sunday unloading the freight trains as they arrived and putting the guns and cases of shells aboard lighters

In the meantime, the *British Ministry of War Transport* ordered a dozen ships, some of them already partially loaded in New York, to proceed at once to Gravesend Bay. One by one the freighters moved in and dropped anchor. By Tuesday, June 11th, the ships were there, the goods waggons were on the sidings, the 75's, the machine guns, the rifles, the rounds of ammunition, and the powder were stacked on the docks and on the lighters. Everything was ready.

Loading could not begin until the contracts had been signed. At the Munitions Building in Washington that afternoon, the last paragraphs were written in the War Department's contract with U S Steel Export Corporation, and the Secretary of War signed it. Then Olds and Fairless taxied across Washington to the headquarters of the British Purchasing Commission, where Purvis and Bloch Lainé signed a joint contract for the British and French. It was only a page and a half long, the British and French Governments agreed to take title to all the materials "f o b cars as is and where is". The price was exactly the same as that which the U S Steel Export Company had agreed to pay to the War Department. Five minutes after the contract was signed, General Wesson called Army headquarters at Raritan to say that the arms now belonged to Britain and France.

"Go ahead and load," he said.

The first ship sailed from Gravesend Bay two days later. She was the *Eastern Prince*, and on her ship's manifest were listed forty-eight boxes of 75 mm field guns, 28 million rounds of 30 calibre ammunition, 15 000 machine guns and the first lot of 12,000 rifles. She was at sea when Marshal Pétain asked Hitler for an armistice on June 17th. Britain stood alone, as Churchill had foreseen she might in his Dunkirk speech. But not quite alone.

A dozen ships sailed from Gravesend Bay and Baltimore with guns for Britain before the end of June. Another fifteen freighters sailing between July 1st and August 1st took what was left. The first vessel to reach England, the *Eastern Prince* arrived on June 22nd. Most of the others reached British

war factories worked night and day to make up the losses in Flanders, there were few guns in all Britain that could stop a tank besides the nine hundred 75's from America. The 80 000 Lewis, Marlin, Browning and Vickers machine guns strengthened

the defences of every threatened beach head and every road leading in from the coast

Except for the rifles, which are still used by the Home Guard, the arms we sent in June of 1940 were only a stop gap. But they went to men who almost literally had no arms at all in the most critical hour of Britain's history since the Spanish Armada sailed into the English Channel. Most important of all, perhaps, was the promise implicit in those shipments—that America saw in Britain's imminent danger the imminence of danger to herself.

Besides the guns, we also tried to send some planes we had in service. They were not the "clouds of planes" which Premier Paul Reynaud of France desperately imagined might be sent when he made his last appeal for aid to the President on June 13th. America had no "clouds of planes" to send in June of 1940. But the Navy agreed to release fifty of its Curtiss-Wright SBC-4 dive bombers, and the Army ninety three of its Northrop A-17-A light attack bombers. These also were traded in to the manufacturers for later-type planes then in production and resold to the British and French as the rifles had been.

Most of the planes were flown to Halifax, where the French aircraft carrier *Bearn* was waiting. But the planes never got to Europe. The *Bearn* sailed on June 17th, just as Petain was asking for an armistice. While she was at sea, Admiral Darlan ordered her to change course and run for Martinique in the French West Indies. There she and the planes remained rusting in ineffectual neutrality until three years later, when the French National Committee took over control of the island from Vichy.

The disasters in France confronted Great Britain with another emergency besides the danger of invasion. On June 15th, 1940, the day after German troops marched down the Champs Elysees in Paris, Arthur Purvis received in New York a secret cable from London. The surrender of France, it said, might come at any moment. The British Purchasing Commission in the United States must be ready to deal with the emergency which this would create in the supply programme.

Purvis immediately called in Sir Henry Self and Thomas Childs, the Commission's General Counsel. These three well knew what they faced. Over the past five months, the British and French purchasing programmes in the United States had been more and more closely meshed together. If France should capitulate and drag into inaction with her all her supply assets in the United States, Britain would face Germany alone with the joint air programme wrecked and all the other joint contracts subject to endless legal disputes. Arms the French had ordered, which the

British would need desperately now that they stood alone, might become completely unavailable to them. Purvis knew also that if the French contracts went bad, American industry might be reluctant to go ahead with British orders. For several weeks, as the military situation grew worse, the French mission had experienced increasing trouble persuading manufacturers in the United States to accept contracts. They had begun to look like a bad risk. It would be fatal if this attitude spread to British contracts also.

To Purvis and Self, there was but one answer. If France fell, the French contracts must not fall with her. They sent a cable to London asking for recommendations and for discretionary powers to take any steps necessary to protect the British position. Outstanding French commitments in the United States totalled over five hundred million dollars at that time. Many of the contracts covered supplies the British must have if they were to carry on. Others were for special French equipment and would be worthless.

There were literally thousands of contracts for planes, machine tools, raw materials, lorries, powder, explosives and guns. It would take weeks to examine them all, pick out what the British needed and then negotiate with the manufacturers on individual contracts. There would probably not be time enough. Purvis believed the British must be prepared to take on all the contracts at once.

At midnight on June 15th, 1940, Purvis received his answer from London. He and Self had authority to do whatever was necessary. There were no other instructions. The full responsibility was on them.

By nine o'clock on Sunday morning, June 16th, it was clear from the radio bulletins that a Cabinet crisis was rapidly coming. A hard decision had to be made. The British wanted to continue the negotiations. The French wanted to stop. The British decided to continue. The French decided to stop. The British and the French agreed that they must start negotiating immediately with the French Air Commission.

They arrived at the Commission's headquarters in Rockefeller Centre a little before noon that Sunday. The full staff was at work in the outer office as if it were an ordinary working day. In the inner office, Colonel Jacquin, then head of the Air Commission, sat alone, dejectedly listening to the bulletins coming in over the radio. Childs immediately came to the point. The British wished to take over all the French contracts.

Jacquin did not hesitate. As for the air contracts, they would go to the British. He had no authority over the ground contracts,

but he immediately sent out word that the French Purchasing Commission officials should be located and told to be ready to meet with the British.

About two o'clock that afternoon word came over the radio that Reynaud had resigned. Jacquin had hoped until this moment that France might stand. Now he was sure it was all over. He asked Childs and the French Air Commission Counsel to prepare the necessary documents for the transfer. Jacquin attached only one condition. "You must take all the French contracts or none of them," he said. "You cannot pick our bones after we have fallen."

As they worked over the air contracts, the radio flashed the news that Pétain had decided to capitulate. It had come far more quickly than anyone expected. Orders might arrive from France at any moment cancelling the authority of the French representatives. Washington might at any moment freeze all French assets in the United States, as had been done with the assets of all other countries occupied by the Axis. A complete assignment had to be made immediately.

In the early evening, Purvis returned, and the missing French Purchasing Commission officials were located. In Purvis' apartment high above New York, as the lights came on below, they went to work, drafting and re-drafting the necessary documents. At three in the morning the papers were ready for signature.

Purvis hesitated for ten minutes before he signed, going over the whole transaction in his mind. With two signatures—one for air contracts and one for ground—he was accepting six hundred million dollars in obligations for the British Government. There was no time to consult London again. The whole deal might fall through at any moment. This was a complete reversal of the careful spending policy the British had followed in order to make their dollars last through the long war of attrition they had expected. But now it was all or nothing if Britain was to fight on. Purvis told his friends later it was the biggest decision of his life when he finally picked up a pen and signed the transfer papers.

For the French, too, much was at stake. The Government which had appointed them was gone. All on their own, they were about to dispose of all the war assets of France in the United States. They signed the papers.

Only one condition was attached to the transfer. The assets were to be kept in the United States until the war was over. This was the only condition. Purvis signed the papers. The transfer was complete.

Barely five hours after the documents were signed, all French assets in the United States were frozen by the Treasury Depart-

ment That afternoon, Secretary Morgenthau, after a talk with Arthur Purvis, made a public announcement He could not yet disclose that the take-over was completed But he had to give some assurance to the American business men who had outstanding French orders He was advised by the British, he said, that they would undertake to assume all French munitions contracts in the United States

Purvis, however, was not sure that the American manufacturers would accept the documents which had been signed by the French The Pétain Government, under Nazi pressure, might repudiate the agreement in an effort to immobilize the French supplies Before announcing the take-over, Purvis approached a few American companies to get their reaction There was some hesitation at first Then Donald Douglas, President of Douglas Aircraft Company, blazed the way for American industry by accepting it The rest of American business fell in line The arms that had been destined for the French would now pass into the hands of the British

#### CHAPTER IV

### DESTROYERS FOR BASES

ON a brisk early September day in 1940, a four-stacker destroyer swung out of Boston Harbour and headed east north-east for Halifax at thirty knots New grey paint had obliterated her name—the *U.S.S. Buchanan* For years she had been collecting rust and barnacles, tied up in port like a hundred-odd other destroyers built in the last war Then workmen had swarmed over her, scraped her clean, overhauled her engines, tested and reconditioned her guns, and stocked her with fuel and provisions Aboard, as she dropped Boston Light behind her, was a skeleton crew of U.S. Naval officers and men In her magazines was a full complement of 4 inch shells for her guns and 21-inch torpedoes for her tubes

Eighteen months later, in the darkness before the dawn of March 28th, 1942, the former *U.S.S. Buchanan*, now *H.M.S. Campbelltown* and manned by British seamen, oosed into the harbour of St Nazaire on the French coast, with motor torpedo boats darting around her and R.A.F. planes giving protection overhead As the searchlights caught her, she opened up with her 4-inchers against the shore batteries, then stepped up speed and rammed head-on into the main lock gate of Germany's principal

U boat and battleship base on the Atlantic. Her engines were cut, and Commandos swarmed ashore from her decks. After opening the sea-cocks to settle her on the bottom, the crew abandoned ship themselves. Behind them they left the *Campbeltown*, with 5 tons of delayed action explosives in her bow, partly submerged and still stuck fast in the main lock gate. Hours later, when the raid was long over and a large number of Nazi officers and men were aboard her, a tremendous explosion shook St. Nazaire. The *Campbeltown* had blown up, killing all the Germans aboard and smashing the gates of the lock. St. Nazaire's dry-dock, the only one on the Atlantic big enough to berth the battleship *Tirpitz*, was useless for months afterwards.

This heroic action ended the mission of the former U.S.S. *Buchanan*. She was one of fifty destroyers built in the last war—old, but still fast and tough—which the American Navy turned over to Great Britain in September 1940.

In Halifax that September, full British crews were ready and waiting when the *Buchanan*, and other destroyers with names like *A. P. Upshur* and *Aaron Ward*, arrived from Boston. After trial runs on which the American crews showed the British the ropes, the old destroyers joined the war against the U boats in the Atlantic or took up the patrol of Britain's invasion coasts.

Besides the *Buchanan*, four others of the fifty destroyers had gone to the bottom by the summer of 1943—sunk in action on convoy duty. They were the former U.S.S. *Macon*, *McCalla*, *Aulick* and *Branch*. The other forty-five were still in action, and had performed effective and heroic service during three years of war. They destroyed many Nazi submarines in the North Atlantic. After Pearl Harbour, they helped to fight U boats in the Western Hemisphere and to protect convoys carrying American troops as well as American arms across the Atlantic. Some of them have seen service on the long run to Murmansk. One of them, the old U.S.S. *Meade*, has hung up an endurance record of 250,000 miles of sea duty without a single breakdown. Epic stories of their exploits have accumulated in the British Admiralty files, and I hope some day the complete record will be published.

The fighting little four-stackers, which were never age by ordinary standards, were turned over to the British in an historic transaction concluded on September 3rd, 1940, by which we received naval and air bases stretching from Newfoundland to British Guiana. The destroyers have played their full part in the sea war against the Axis, not only for the British, but for the United States and the United Nations as a whole. The Atlantic bases were important additions to our defences at a time when invasion of

the British Isles appeared imminent, and they have since proved of immense value in the battle against the U boats

The destroyers-for bases deal was concluded after more than three months of difficult negotiations. In May 1940 Lord Lothian and Count St. Quentin, the French Ambassador, approached the President and Secretary Hull concerning the possibility of purchasing some of the old type destroyers. After Dunkirk, Prime Minister Churchill urgently renewed the request through Lord Lothian. Ten British destroyers had gone to the bottom at Dunkirk, and seventy five more had been damaged and were laid up for repairs. Almost half Great Britain's destroyer fleet had been put out of action, some of it for many months, at a moment when Hitler's armies controlled the coast of France and his planes and U boats, operating from their new French bases, were taking an increasing toll of Britain's merchant fleet. Sinkings in July 1940 were announced by the Admiralty as totalling more than 400 000 tons compared with only 75 000 tons in May 1940. Britain's supply lines were in mortal danger. And Hitler was assembling a fleet of 2,500 loading barges across the Channel for the invasion of England.

The United States, on the other hand, had more than 200 old destroyers, designed especially for convoy work that were built during and immediately after the first World War. More than half of them had been tied up in port much of the time since the Washington Naval Limitation Treaty of 1922.

This treaty ended the naval construction race that had begun immediately after the last war, and the London Naval Treaty of 1930 had continued the naval limitation programme. In 1934, however, Japan gave the required two years notice that she would not be bound by the limitations of the London Treaty. That same year Congress passed the Vinson Trammell Act authorizing the construction, within treaty limitations of modern cruisers and destroyers to replace the over age ships which then made up the larger part of our fleet. In 1936 and 1938, when it had become evident that continuation of the naval limitation programme was out of the question, more new construction was authorized.

Then in the summer of 1940, Congress authorized construction of a two-ocean Navy. By the end of that summer two new aircraft carriers, twelve new cruisers, and about eighty new destroyers were already in service. Eight new battleships were on the ways. Most of the over-age destroyers were being re-commissioned for temporary duty until they could be replaced by the new types, but a number were still tied up in port.

The proposal to transfer some of the over age destroyers involved

serious questions for the United States Government. The urgent importance to our own security that the British fleet continue in action was plain. But the destroyers, unlike the rifles and 75's that were shipped in June, were part of our own first line of defence—our first line this side of the British fleet. If Britain fell and the British fleet were lost we would ourselves need every fighting ship we could lay our hands on.

Important voices both inside and outside the Administration came out strongly in support of the proposal. Interestingly enough, it was Secretary of the Interior Harold L. Ickes, who bombarded the President with some of the most urgent memoranda on the subject late in June. In the Senate, Claude Pepper of Florida championed the idea, and called it helping "to keep the war from this Hemisphere." Outside Washington, William Allen White and other members of the Committee to Defend America by Aiding the Allies took up the cause early in July. General Pershing went on the air in August as the climax of their nation wide campaign to mobilize public support. The President all this while was weighing carefully in his mind whether the destroyers would contribute more to American security by actively engaging the Nazis under the British flag or whether they should be held in reserve under our own.

Attorney General Robert H. Jackson, aided by members of his staff, by Ben Cohen and legal counsel of the various departments concerned, began a study of the law involved in the proposed transfers. They found that the President, as Commander in Chief of the Navy, was authorized to make such disposition of naval vessels as he finds necessary in the public interest. This power had been recognized by Congress and by the courts. Congress had, however, placed a limitation on this power by a statute passed in June 1940. It provided that no military equipment, including naval vessels, could be "transferred, exchanged, sold or otherwise disposed of in any manner whatsoever unless the Chief of Naval Operations in the case of naval material . . . shall first certify that such material is not essential to the defence of the United States." The question was: Could these over-age destroyers be properly declared "not essential" to our defence?

There was also the same question of international law involving a direct government-to-government sale that had been considered when the rifles were sent to Britain. It was a point that had been debated for years, and at the time of the rifles deal there were still wide differences of opinion. During the succeeding weeks the issue was thrashed out both inside the Government and in public discussion among students of international law. By



the end of the summer, many international lawyers had come to the conclusion that self-defence must be the paramount consideration in a nation's foreign policy at such a time. Many also believed that the Kellogg-Briand Pact—a treaty by which the signatories had renounced aggressive wars—clearly established the right of nations under the Pact to discriminate against nations that had resorted to war in violation of their obligations.

These conclusions, fully justifying the transfer of the destroyers in a direct government to government transaction, were stated with great force in an historic letter to the Editor of *The New York Times* published on Sunday, August 11th, 1940. The letter was signed by four nationally known lawyers, Charles C. Burlingham, George Rublee, Thomas D. Thatcher, who is now a judge of the New York Court of Appeals, and Dean Acheson, who was soon to become Assistant Secretary of State. It exerted an important influence upon American opinion.

While the feasibility of transferring destroyers to Britain was under discussion, there were parallel discussions under way concerning the acquisition of a series of bases to protect the Atlantic approaches to the Western Hemisphere now that the Nazis had broken through to the Atlantic.

The Pacific approaches to the Western Hemisphere worried us less because most of our fleet was deployed there. Yet a start had been made in the spring of 1939 on expanding our Hawaiian defenses and building new naval and air bases at Midway, Wake, Johnston and Palmyra Islands in the mid Pacific, at Kodiak Island in the Aleutians and at Sitka, Alaska. Though the Navy late in 1938 had recommended the fortification of Guam in the Far Pacific to protect our supply lines to the Philippines, Congress was unwilling to appropriate funds for this work. Not until eight months before Pearl Harbour did we start to build on this island facilities for anything other than commercial aircraft.

Our Atlantic approaches were more immediately threatened in 1940. To the south, Axis economic penetration of Latin America was proceeding at an alarming rate. Axis agents were everywhere, and after the fall of France the Nazis told German salesmen to take orders in South American countries for delivery of German goods by October 1st, 1940, as proof of their confidence that England would fall and the blockade of Europe end. They had even gone so far as to plan an uprising of pro-Axis elements in Uruguay for the summer of 1940—a plot that was fortunately nipped in the bud by Uruguay's liberal Government. Even if economic penetration and inspired uprisings in South America should fail, Dakar in French West Africa or the French posses-

sions in the Caribbean might well be used as bases for a military attack.

For more than a century it had been our policy to prevent any non-American Power from obtaining new territory in the Western Hemisphere. With the advent of the Good Neighbour Policy, we made it clear that we wished to co-operate with the other American Republics as sovereign equals in the common defence of this hemisphere. This co-operation was advanced markedly in December 1938 by the Declaration of Principles at the Conference in Lima, where all the American Republics agreed to consult together whenever foreign intervention threatened any part of the Americas.

There was much to be done if this statement of solidarity were to be implemented. The armies of some of our southern neighbours were equipped with arms of German manufacture, and almost no ammunition of the right calibre was manufactured in either North or South America. To assure the other American Republics a source of munitions in this hemisphere if they should be attacked from abroad, we had provided in 1939 that the Neutrality Act should not apply to any American Republic attacked by a non-American Power.

After Dunkirk, we went a step farther. On June 16th, 1940, Congress authorized the Secretary of War and Secretary of the Navy to manufacture in government-owned arsenals or shipyards, or to purchase on the open market, munitions of war for direct sale to the Government of any American Republic. This law, known as the Pittman Act, was a forerunner of Lend Lease. It did for the American Republics most of what the Lend Lease Act later did for all nations whose defence was vital to our own, except relieve them of the necessity of paying cash for the goods.

But financial aid was necessary as well. That was provided by Congress on September 26th, 1940, when it authorized the Export-Import Bank to loan up to \$500,000,000 to the American Republics. Soon thereafter the War and Navy Departments created the Joint Advisory Board on the American Republics, which was to work with them in preparing a programme for the purchase in the United States of the munitions they needed for defence.

The plan as finally developed provided for the procurement of \$400,000,000 of munitions here for the American Republics over a period of years. It was never necessary to use these statutes to carry out the programme, however, for before any of the munitions had been manufactured and made ready for shipment the Lend Lease Act had become law. Thereafter arms for the American Republics were supplied under Lend Lease.

When France fell, we were not in a much better position to

Join in the common defence of the southern half of this hemisphere than were the other American Republics. While we had a strong Navy and were preparing to build a large Army, the possibilities of getting task forces to South America in the event of an attack were limited. If Hitler should obtain control of French Guiana, Martinique and Guadeloupe, he would have bases which could be used to cut our lines of communication to the south and even for an attack upon the Panama Canal.

To consider this danger, the Foreign Ministers of the American Republics met at Havana on July 21st, 1940. The conferees agreed that none of them would recognize transfers of sovereignty in the Western Hemisphere from one non American State to another, and that if any such transfer were attempted, the territory would be occupied by one or more of the American Republics as "collective trustee" for all.

This was only a partial answer. The Panama Canal, Puerto Rico and the Virgin Islands were the most southerly bases of the United States. They were farther from the hump of Brazil, where many thought Hitler was most likely to strike, than Brazil was from Dakar—the most likely point from which an attack would be launched. Moreover, they were hardly adequate to protect the Atlantic approaches to the Panama Canal without the support of the British Navy. If we could get a base in British Guiana, we would be nearly a thousand miles closer to Natal. With additional bases on the outer islands of the Caribbean stretching from the Bahamas on the north to Trinidad on the south, we would be in a far better position to defend the Panama Canal. Most of these islands were British-owned.

During the summer of 1940, discussions were going on also with

then appearing over Iceland, and, as we discovered later, a Nazi weather station had been set up in Greenland. Neither island had any defences worthy of the name. Canada, like the United States, had no North Atlantic outposts.

President Roosevelt and Prime Minister Mackenzie King met at Ogdensburg, N.Y., on August 17th, 1940 to discuss the danger, and they established the Permanent Joint Board of Defence to "consider the defences of the northern part of the Western Hemisphere." Strong sea and air bases in the outlying islands of Newfoundland and Bermuda were essential to the defence of Canada and the United States. Both Bermuda and Newfoundland were British possessions.

Americans of all shades of opinion wanted additional bases for the United States in this Hemisphere—both those who were for all-out aid to Britain in the interests of American security and those who were committed to a continental defence alone. Some groups, however, hoping to stop transfer of the destroyers, urged that Britain be called upon to give us the bases in exchange for cancellation of the old World War debts. Nazi agents, like George Sylvester Viereck, actively took up this line.

In the meantime, the United States Government had taken up the matter of the Atlantic bases with Britain, and Mr. Churchill's Government agreed to make them available to us. The President had also made up his mind that in the interests of our own defence the over-age destroyers should be transferred to Britain. It was his inspiration, supported vigorously by Secretary of the Navy Frank Knox and others, to tie into one transaction the destroyers and the bases. We would lease the base sites for ninety-nine years.

Attorney General Jackson ruled that the President had authority to make this exchange. In a written opinion he declared that the President, as Commander-in-Chief of the United States armed forces, had the right, in order to obtain the bases, to dispose of the destroyers, provided that they were officially certified as "not essential" to the defence of the United States by the Chief of Naval Operations, Admiral Stark. Furthermore, the destroyers should be so certified, if in the Admiral's judgment "the exchange of the destroyers for the naval and air bases will strengthen rather than impair the total defence" of the country. That this was the case was plain enough, in the Admiral's mind, to outweigh the natural reluctance of any naval officer to part with any of our warships.

President Roosevelt stated the position of our Government on the international law involved clearly and decisively. "This is not inconsistent in any sense with our status of peace. Still less is it a threat against any nation. Preparation for defence is an inalienable prerogative of a sovereign state. Under present circumstances this exercise of sovereign right is essential to the maintenance of our peace and safety."

A temporary delay in concluding negotiations with the British occurred in the middle of August. The Prime Minister preferred to give the rights to the bases as a free will offering. He stated in a speech on August 20th, rather than as a trade for the destroyers. He wished to keep the transactions separate. Comparing fifty over-age destroyers with the bases made it sound as if the United States had pretty thoroughly out-traded Great Britain.

A compromise was worked out in Washington and accepted in London whereby Great Britain would "freely give" the rights to bases in Newfoundland and Bermuda, which would be of special value to the defence of Canada as well as of the United States, and would trade for the destroyers the West Indian and South American base sites on the Bahamas, Jamaica, St. Lucia, Trinidad, Antigua and British Guiana.

The texts of the notes to be exchanged were drafted and ready for signature on Labour Day. That afternoon Lord Lothian and Secretary Hull signed them. At the same time Prime Minister Churchill, at Mr. Hull's request, reaffirmed the pledge given in his Dunkirk speech that the British fleet would never be scuttled or surrendered, but would fight on from overseas bases if the waters surrounding the British Isles became "untenable." Churchill could not, however, resist coupling the assurance with a jab at the pessimists who were then giving Britain small chance to survive.

"These hypothetical contingencies," he observed, "seem more likely to concern the German fleet or what is left of it than the British fleet."

#### CHAPTER V

### OUR CO OPERATION GROWS

DURING the second half of 1940, we really got down to the business of building an American munitions industry. To develop further the policy announced in his rearmament speech of May 16th, the President on July 10th, 1940, asked Congress to appropriate funds to equip a mechanized army of 2,000,000 men and to buy 15,000 more planes for the Army and 4,000 for the Navy, in addition to the 7,000 authorized for both services in June. On July 19th, he told the nation a Selective Service Act was necessary and ten days later asked Congress to speed up legislation authoriz-

ing the production of munitions and aircraft.

For the first time in our history we took steps to create a powerful army to defend ourselves before an armed attack had been actually launched upon us. The decision came none too soon. On September 27th, 1940, Germany, Italy and Japan signed an alliance in which each agreed to protect the "new order" in

Europe and Asia—a "new order" made possible only by totalitarian aggression—and to come to each other's aid in case of "attack" by another Power. This treaty of the three Axis aggressors disguised so thinly as a defensive alliance, was a threat of war against the United States if we continued to take steps to defend ourselves.

The events of May and June 1940 taught other democracies that neutrality alone was not enough to protect them. At the same time that we started to place large munitions orders, they began a frantic search for arms from American factories. The action of the Netherlands Government was typical. In January 1940 a Dutch purchasing mission had come to this country, but bought only a few planes and a small amount of other military equipment. After they lost their homeland in May 1940 the Dutch still had a great overseas empire—the Netherlands Indies—for whose defence they needed all the munitions they could obtain. Five days after the Netherlands Government escaped to London, a purchasing mission came here from the East Indies seeking munitions and ordered more than \$50 000 000 worth before the end of the year. Many other small countries followed suit. In the summer and autumn of 1940, purchasing commissions from most of the American Republics came to this country to buy arms themselves.

At the same time orders from China and Great Britain, the two great nations left fighting the Axis on opposite sides of the globe poured into the United States in fast increasing volume. Those for China were made possible by two new loans from the Export Import Bank for a total of \$75 000 000 which were announced in October and December 1940. These loans were negotiated for the Chinese by T. V. Soong, who had just come to this country on a special mission for his brother in law, Generalissimo Chiang Kai shek. Unlike the two previous loans to China, these could be used for the purchase of arms as well as other supplies.

The British, of course, were now faced with an entirely new strategical situation. With the fall of Norway, Denmark, Holland, Belgium and France, important sources of essential supplies on the continent of Europe were cut off. At the same time their need for arms had multiplied. Gone was any remnant of the idea that Britain could sit behind fixed defences while Germany was starved into defeat. Weapons were needed now to defend the British Isles against direct attack by Germany, and the Suez Canal against direct attack by Italy. In the light of Japanese infiltration into

French Indo China, Great Britain, Australia and New Zealand were also thinking of arms for the defence of Singapore and the South west Pacific

The size of the arms orders placed with American industry during the last half of 1940 was staggering when matched against our arms capacity at that time. From January 1st, 1939, to June 1st, 1940, foreign governments had placed orders for war material totalling only \$600,000,000, their orders in June alone amounted to \$800,000,000, and in the last six months of 1940, they were increased by another \$1,200,000,000. In the last seven months of 1940, contracts let by our Army and Navy totalled \$8,600,000,000, and Congress appropriated \$21,000,000,000 for the defence programme, five times the appropriations for the entire fiscal year ending June 30th, 1940. Army and Navy plane orders in the two and a half years from January 1, 1938, to June 30th, 1940 totalled only 5,400 planes. In the next six months alone, they amounted to 21,401. The load that American industry had to carry increased many fold in a few months.

In the face of orders of this magnitude, the necessity for further co-ordination of the two procurement programmes—that of our own forces and that of our friends—became obvious. Many problems arose that could be settled only by close co-operation. The most fundamental issue had been settled by the President on June 10th, 1940, in his address at the University of Virginia. "We will pursue two obvious and simultaneous courses: we will extend to the opponents of force the material resources of this nation, and, at the same time we will harness and speed up the use of those resources in order that we ourselves in the Americas may have equipment and training equal to the task of any emergency and every defence." This meant that our Government would not take over for our own armed forces the output of plants built or under construction to fill foreign orders. Instead we would superimpose on top of the munitions industry created with foreign capital a new munitions industry to fill our own orders and additional foreign orders.

But many problems remained. How large a munitions industry should we build? The answer to that question would determine how fast we could arm ourselves and fill the orders placed by the other democracies.

What types of munitions should we produce? A large part of the munitions industry that was already built or under construction had been created by foreign orders. Some of it was being tooled up to produce arms which were not standard equipment for our forces. Unless steps were taken speedily, we would have

By the end of 1941, Knudsen said, it would be impossible. But in another year, he thought it could be done. He was not far wrong. By the end of 1942, planes were coming off the line at 5,400 a month. By August 1943, the figure had risen to 7,500 a month. American industry had accepted the challenge and had come through magnificently.

That night Lord Beaverbrook went on the air from London to tell the good news to the British. The promise of greater aid implicit in the new programme helped to give them courage to face the Battle of Britain which began two weeks later—on August 8th, 1940—when the Nazis sent a great bomber fleet over Britain on the first of many daylight raids to come.

The British got many airplanes, but they never got anything like 4,000 a month. Long before we were producing 6,000 a month, Russia, and then we ourselves, had been attacked. But the forces of all the United Nations, ours and those of our allies, did get them.

With the aircraft production programme doubled overnight, new plans had to be laid to expand production of component parts. Engines continued to be one of the worst bottle necks. In the summer of 1940, the United States Army Air Corps was using air-cooled radial engines, but had become interested in liquid-cooled engines for use in fighter planes. Unfortunately the United States had no proved engine of that kind. While the new Allison engine, just then getting into production, held great promise, "bugs" were still appearing, and no one could tell how long it would be before they could be eliminated. In this predicament the Air Corps had become interested in the battle-proved Rolls-Royce Merlin engine. This engine had been developed by the British and used with great success in Spitfire and Hurricane fighters and in Wellington and Halifax bombers.

Secretary Morgenthau called Lord Beaverbrook, who had just become Minister of Aircraft Production, by transatlantic telephone and asked him for a licence to produce Merlin engines in the United States. Beaverbrook's reply was immediate. Yes, we could have a licence to produce the Merlin engine, and, for that matter, licences to produce Spitfires, Hurricanes and anything else that we wanted for our air programme.

It was a bold offer. Private rights in patents and licence agreements cannot be given away so easily. But Beaverbrook knew that in some way the details would be settled, and he was determined that there should be no delay. It was but one example of his blunt, bold action that meant so much to Britain in her hours of trial.



A few weeks later, I have been told, a high British official went to Halifax, Nova Scotia, with a large brief-case to pick up the Merlin engine blue-prints, which had been sent over on a battleship. When he got there, he went aboard, had lunch with the Captain, and then announced he was ready to take the blue-prints.

"How are you going to carry them?" the Captain asked.

His visitor pointed to his brief-case.

"Perhaps you had better come down and look them over first," the Captain said.

They went down to the room where the blue-prints were stored.

"Where are they?" asked the official, looking around at a lot of packing-cases.

"In those big boxes," said the Captain. "There are about two tons of them."

On September 3rd, 1940, a contract was signed with the Packard Motor Company to produce 9,000 of these engines—3,000 for our Air Corps and 6,000 for the British, who needed them as they stepped up bomber production at home. But before anybody could get any engines, a factory had to be built and tooled up. The cost of that was split between the United States and the British, one third and two-thirds. Before the plant was finished, the British Government had paid over \$24,900,000 for construction and had thrown in the design of the engine itself for good measure. The engine, which the British permitted Packard to produce for our Air Corps without royalty charge, has since been used in our P-51's and in some of our P-40's.

While these contracts were being let, a new problem—that of allocating the output of our airplane industry—was arising. Whenever American and foreign orders had been placed with the same manufacturer, our Government under its newly granted priority power could pre-empt all deliveries for its own use even though the British orders had been placed first. Such action would, of course, have been completely inconsistent with our policy of strengthening our defences by aiding the countries fighting those who threatened us. Some system of allocations was called for.

A beginning was made on August 21st, 1940, when a committee was created consisting of two representatives each from the Army, the Navy, and the British Air Commission, who were later joined by representatives of the President's Liaison Committee and of the Defence Advisory Commission. The members of this Committee, which became known as the Joint Aircraft Committee, were empowered, as Secretary of War Stimson said, "to act for and obligate" their governments. It was a long step towards effective day-to-day collaboration in arms production, and a

significant forerunner of the Combined Boards created after Pearl Harbour

The principle upon which this Committee began operating was to allocate planes and their component parts in such a way as to put them to effective use as soon as possible—either against the Axis in the case of planes for Britain, or for the strengthening of our own defences in the case of planes for ourselves. Efforts were made to prevent any nation from accumulating spare motors, propellers, guns or other parts so long as another country had planes idle for want of parts.

The Joint Aircraft Committee was also given another job of equal importance—to standardize the planes and plane armament being produced in American plants for both governments. The first plane towards which the Committee directed its attention was the P-40. Although the P-40's then in production for the United States and Great Britain were basically the same, there were innumerable differences in detail, and each government was constantly changing specifications independently of the other. The result was a manufacturer's headache and a low rate of production. In September 1940 the Committee met at the Buffalo plant of the Curtiss Wright Corporation. The meeting lasted two days and resulted in an agreement to standardize the model and freeze the design for a period of six months.

The result was an almost immediate jump in production. Later similar standardization meetings were held at other airplane plants. In each case, the result was to increase production for both the British and ourselves.

Steps towards standardization of other arms besides aircraft were taken in September, when Sir Walter Layton came here as a special envoy for the British Ministry of Supply. In discussions with Secretary Morgenthau and Secretary Stimson, he outlined the British need to buy here large amounts of equipment of all types for ground troops. He made it clear, however, that the British realized this could not be done without far greater standardization than had been accomplished to date. The British would place orders in Canada for as much of the non-American equipment as possible. But much of it would have to be secured in the United States, and they realized that here they would have to order equipment that could be used either by British or American forces.

Layton said that as a starter the British wished to equip ten divisions for action in the Middle East with standard American equipment produced in the United States. On condition that all the orders be cleared through the War Department and be placed

promptly so that plant expansion would start at once, the plan was agreed to on November 29th, 1940

The British decision to purchase American type equipment, embodied in the Stimson-Layton Agreement, was much more than a simple acceptance of our standard items. It was also an offer by the British to work with us in developing new weapons or re-designing old ones for both nations. The offer was immediately accepted, and our two armies began at once to exchange equipment for testing. We sent them two of our anti aircraft guns and our 105 mm howitzer, and they sent us their 25 pounder gun, their 40 mm Bofors and another anti aircraft gun. Each nation gave the other nation's equipment a thorough testing. The British 40-mm Bofors turned out to be such a good anti aircraft gun that we adopted it for our own Army and for our naval vessels, and began production in the United States. The British adopted our 105 mm howitzer and some of our other guns. Some weapons were re-designed to incorporate the best of what each nation had to offer. This was a form of co operation—mutual aid in ideas—which is now an accepted and indispensable part of the joint war effort.

Official pride on both sides was often a barrier at first but as each army found some of its ideas accepted by the other, both became less reluctant to adopt new weapons and new ideas. As this sharing of technical knowledge has continued, the attitude of each nation has progressed from pride in its own weapons to pride in its contribution to a jointly designed weapon. Today, for instance, both the British and ourselves claim credit for the great development in radiolocation during this war. I have never been able to learn exactly which nation contributed most and I do not think it matters. What is important is that radiolocation probably never would have reached its present stage of perfection had not the British and ourselves started sharing ideas back 'in 1940.

One of the earliest tangible results of our close collaboration was an American medium tank which was designed in the summer of 1940 as a joint British-American undertaking. The events of

had been and refused to guarantee a favourable result in the Middle East. But he immediately set about strengthening the British forces there. During the worst days of threatened invasion in the summer of 1940, he sent Britain's only remaining armoured

division to Egypt. It enabled General Sir Archibald Wavell to hold Graziani but many more tanks were needed for the operations to come.

The British wanted to buy large numbers of American tanks to supplement their own production. Our army, too, needed thousands of tanks of equip the armoured divisions of the new army soon to come into being. There was, however, only one company—the American Car and Foundry Company—then producing tanks, and it was making only light tanks.

On August 6th, 1940, William Knudsen and John D. Biggers, his deputy on the Defence Advisory Commission, called a meeting in Washington. American Army officers were there along with British Army officers and representatives of the British Purchasing Commission and the President's Liaison Committee. But by far the largest number at the meeting were American business men and industrial engineers—men from the automobile industry, the locomotive and railway car industry, and other American manufacturers of heavy equipment.

The manufacturers were told that American and British ordnance officers were rapidly reaching agreement on a medium tank design for the armies of both nations. Basically, it was the old American 25 ton General Lee, which our army had designed in 1937. But it was to be drastically modified in the light of British experience in the Battle of France, where their medium tanks had proved no match for the Nazi models.

Michael Dewar, who had come to the United States shortly before at the head of a British Tank Mission, told the meeting that from the beginning of the war he had always thought that Britain should have a very large number of tanks. "I worried Mr Churchill's life out," he said, "and when Mr Churchill became Prime Minister, I suddenly received a telegram asking that I come to see the Minister of Supply. He handed me all the memoranda with which I had been bombarding Mr Churchill, and said 'Well, here is your opportunity to get these tanks at the rate of 1,000 a month. Perhaps you had better go to the United States and get some of them.' That, gentlemen, is why I am here." Britain, he went on to say, needed 600 tanks a month from the United States to complete her programme.

Then the American ordnance officers described the type of tank on which they and the British were reaching agreement. For over three hours, the business men and the military talked over ways and means of getting them into production.

By the end of August the blue prints had been prepared for a standard design—the General Grant, predecessor of the General

Sherman The next step was to let the contracts The War Department decided to rely upon one plant for most of its tanks In September 1940 it put up \$20,000,000 for construction of the huge Chrysler Tank Arsenal at Detroit The British placed orders for over 2,000 tanks with the Pullman Standard Car Manufacturing Company, the Pressed Steel Car Company, the Lima Locomotive Works and the Baldwin Locomotive Works Motors to satisfy the orders of both Governments were to come principally from the Continental Motors Corporation of Detroit

Many of the new plants needed to produce tanks for British orders were paid for by the British following the old practice They spent over \$8,000,000 for new facilities for the four companies that were to build the tanks and for concerns such as Republic Steel Corporation which were to build component parts When it came to the facilities for tank engines, however, Arthur Purvis asked if some assistance would not be possible The British by this time had little gold or dollars left Purvis talked with the President's Liaison Committee, the War Department and the Reconstruction Finance Corporation

On September 9th, 1940, the Army had signed a contract with Continental Motors for 1,000 tank engines to be produced at the rate of 200 a month by October 1941 This was sufficient for our needs at that time The British estimated their needs at 400 a month Four days later Under-Secretary of War Robert P Patterson wrote to Emil Schram, the Chairman of the Reconstruction Finance Corporation, that, "The creation of manufacturing capacity capable of producing twenty medium tank engines per day [600 per month] by the Continental Motors Corporation of Detroit, Michigan, is essential to the national defence of the United States" Mr Knudsen sent a similar letter for the Advisory Commission A week later, the Reconstruction Finance Corporation put up \$8,000,000 for machinery and tools needed to build these 600 engines a month The Reconstruction Finance Corporation

United States" in Patterson's letter were more than recognition of the

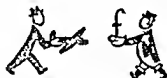
selves The Reconstruction Finance Corporation loan for production facilities to make engines we did not need at the moment was a form of aid to the British But it was more than that It was a way of building up our own war potential at the same time

# DECLINE OF BRITISH DOLLAR RESOURCES

Why Britain was forced to stop buying war goods in the U.S.



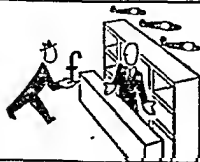
In 1940, the British desperately needed war goods from the U.S. These had to be paid for with dollars because...



...if American manufacturers were paid in £'s (sterling) .



...they could not use this currency in the U.S. ...



... nor could they use it to buy goods in Britain because so much British production was going to the battlefronts.



As long as Britain's dollar and gold supply held out, the British could buy war goods from U S firms



The only way for Britain to replenish her supply of dollars was to export British goods to the United States.



But, because so much British production was for war use, the British could not export enough to get all of the dollars they needed



By Jan 1941 they had used up the reserve dollars and gold supply and were forced to stop buying war goods in the U S



of stocks in American companies owned by private individuals in Britain. The plain fact was that they had little more than enough dollar assets left to pay for the materials they had already ordered here.

By the middle of December, new British contracting in the United States had practically stopped. Secretary Morgenthau and the late Sir Frederick Phillips, a high official of the British Treasury who had come to this country shortly after the take-over of the French contracts, had been meeting every week for some time to discuss the British dollar position and the volume of British orders. Now they were fixing a strict weekly budget of dollars for the British missions in this country. No matter how essential the weapon or the supply, it could not be ordered if the weekly budget had already been spent.

To meet the dollar problem, we could have made loans to Britain, as we had made loans to our Allies in the last war. At first glance it was a simple and convenient solution, but in reality it was loaded with trouble. Loans between allies in a major war of survival seldom work out satisfactorily. The British had found this out more than a hundred years before, when they had combined with other nations in Europe to stop Napoleon. They made some loans to finance their allies, and then found that only a fraction of the loans could be repaid. In the long run, they simply gave up making loans altogether. Because it was vital to Britain's security that Napoleon be defeated, they gave enormous amounts of aid to their allies in the form of outright subsidies.

We in the United States had discovered after the last war how unworkable loans were when the war-debt problem brought economic dislocation and disastrous misunderstandings between allies who should have been standing together to keep the world at peace. A fixed money debt would create the same difficulties all over again.

There was another important reason for not making loans. The crux of the matter was not dollars, it was planes, guns and ships. To put aid to countries holding the Axis in check on a commercial basis would inevitably hamper us in achieving our real objective—to get enough weapons to the battle fronts to stop aggression before it reached the Western Hemisphere.

Munitions capacity was growing tighter every day, machine tools were becoming scarce, raw materials shortages began to loom ahead. By December 1st, 1940, only 2,100 of the 23,000 planes that the British had ordered or were programming had been delivered. To deliver all these planes and to build at the same time the air strength our own safety required would strain our plant facilities to the limit. Only a single, unified Government procure-



ment policy for all defence purposes could do the tremendous job that was now ahead. This meant that the United States Government should place all the orders for weapons in this country.

There was finally the problem of defence strategy. No one could foresee the changes that the course of the war might require in the allocation of American arms. It might be necessary for us to send abroad weapons originally scheduled for our own Army in order to prevent a decisive Axis victory overseas before we were prepared ourselves. On the other hand, we ourselves might be under attack when the planes ordered in December 1940 began to come off the production lines in December 1941.

The search had gone on in the Government all during the summer and autumn of 1940 for the best solution to all these problems. The first time I got an idea of what the answer might be was at a meeting of the Defence Advisory Commission with the President in the late summer. We were talking of the shipping shortage and the increasing difficulty the British would inevitably have in moving their war supplies from the United States. They had already begun to buy ships here, but we knew they had not enough dollars to go on with this programme very long. Finally, the President suggested that it should not be necessary for the British to take their own funds and have ships built here, or for us to loan them money for this purpose. In his opinion there was no reason why we could not take a finished vessel and lease it to them for the duration of the emergency.

It was a new idea to all of us there, and it seemed to make sense. But the problems of the Defence Advisory Commission were then chiefly in the domestic field, and I thought little about the President's remark until later on when the words "Lend-Lease" were the centre of everyone's attention in Washington. Then I thought back and realized that the President's remark was not just an isolated comment on a single problem. It was part of a complete plan for aiding the democracies that he was turning over in his mind.

The idea, I found later, had been first proposed in the Treasury Department, where the problem of continuing the flow of arms to Britain in the face of her diminishing dollar supply was constantly under consideration. The Treasury lawyers found that under an old statute of 1892, the Secretary of War, "when in his discretion it will be for the public good," could lease Army property "not required for public use," for a period of not longer than five years. Under this statute, tractors, lathes, cranes, barges, and other such Army items had been leased from time to time.

The statute suggested the idea of applying the lease principle to a system of aid for Britain. It was a fruitful starting point. But the

idea of an ordinary lease was not wholly applicable either. When a man rents a house for instance, he ordinarily fixes a definite price and a length of time for the lease to run. This was plainly impossible when we sent weapons to Britain or to China. How long the crisis would last, what we would want them to give us in return—no one knew the answers to these questions. The lease would have to be open-ended, with a gentlemen's agreement for a fair and workable settlement in the best interests of all of us after the Axis had been defeated.

Early in December 1940 the President left Washington for a short cruise on the U S S *Tuscaloosa*. One purpose of the trip was to visit some of the naval bases in the Caribbean that had just been leased to us by the British. But the President also wanted an opportunity to think over all these problems which were becoming more critical every day under the pressure of events abroad.

The full danger to the United States of events abroad was brought home to me more powerfully than ever at just about this time. In the middle of a meeting at the Defence Advisory Commission's offices one morning, Secretary Stimson telephoned and asked me to pick up William Knudsen and Donald Nelson, and come to "Woodley," his house, at one o'clock for lunch. I remember it was one of Washington's freak hot early December days. When we arrived we were shown into Mr Stimson's study, and we had been there only a few minutes when Secretary Hull and Secretary Knox came in.

Mr Stimson got right down to business. We officials of the Advisory Commission had the duty of assisting in the mobilization of American resources for national defence. But we also had another duty, Mr Stimson said. That was to help mobilize the thinking of the American people for a great effort. The three Secretaries thought we should be told some of the details of the reports from abroad on which members of the Administration based their warnings to the American people of the growing danger to our country.

Secretary Hull began by giving us a clear and forceful picture of the terrible possibilities which had caused him to say to the American people a month before: "There can be nothing more dangerous for our nation than for us to assume that the avalanche of conquest could under no circumstances reach any vital portion of this Hemisphere."

The Nazis were definitely out to dominate the world, Mr Hull said. Hitler counted on Britain surrendering in the spring of 1941; then Germany and Japan would take on the United States together—that was apparently the strategy. With Britain out of the war, their

navies might suddenly appear in this Hemisphere, one on either side of South America, and one at the Panama Canal.

Mr Hull did not think this would happen. On the contrary, there was real hope of Russia standing with us in firm opposition to Germany. In south-eastern Europe the situation was very grave. Mussolini's attack on Greece would probably bog down completely, but Hitler would eventually move down through the Balkans into Greece and bale him out. No one could foretell where Hitler could be stopped when he started to move in that direction.

Mr Stimson and Colonel Knox backed up Mr Hull with the military and naval details that filled in the picture with the men, planes, tanks, guns and ships involved. Our most immediate danger was the possible destruction of Britain's sea power in the Atlantic. The crucial hour for Britain, Mr Stimson thought, was only about ninety days away. After that, it was very doubtful whether she could hold out without the firm assurance of great amounts of material aid from this country.

"The life line from the United States"—that was Britain's last hope.

Then the Secretaries laid out an assignment for the staff of the Defence Advisory Commission. The Government was doing its best to tell the American people of the grave threat to our national safety, and it was up to us to explain it to the business world. With W. Averell Harriman, William L. Batt, John Biggers and other business men in the Government, we got to work later that same afternoon. We arranged meetings with the officers of the United States Chamber of Commerce and other business organizations. Donald Nelson went out to Chicago to talk to his business friends there. Knudsen and I met with industrial leaders from all over the country and urged on them the crucial nature of our position.

As the march of aggression continued abroad the country was coming to appreciate more fully the *imminence* of the threat to us if Britain should collapse. But a plan for furnishing her the arms she needed had still to be agreed upon. When the President returned from the Caribbean on December 16th, 1940, he was ready to make a proposal to the American people. He outlined it first at his Press conference the next day.

To the reporters, Mr. Roosevelt laid down what he took to be the clear policy of the United States. "There is absolutely no doubt in the mind of a very overwhelming number of Americans that the best immediate defence of the United States is the success of Great

Britain defending itself, and that, therefore, quite aside from our historic and current interest in the survival of democracy in the world as a whole, it is equally important from a selfish point of view and of American defence, that we should do everything possible to help the British Empire to defend itself."

He reminded the conference that no major war in all history had ever been won or lost because of money. In 1914 the bankers had all assured us that the war would probably not go on for more than three months because of lack of money, and if it did, the bankers would stop it within six months. "There was the best economic opinion in the world that the continuance of war was absolutely dependent on money to the bank. Well, you know what happened," he said.

"Now, what I'm trying to do is to eliminate the dollar sign." That was the heart of the proposal.

Then the President explained his solution in simple terms. Our factories were turning out munitions. The British were buying some of them, we were buying the rest. From now on, the United States Government should place all the contracts for munitions to be manufactured in the United States. If we needed them when they came off the line, we would use them ourselves. If we decided that they "would be more useful to the defence of the United States if they were used in Great Britain than if they were kept in storage here," we could "either lease or sell the materials, subject to mortgage, to the people on the other side."

"The defence of the United States," and not dollars, was henceforth to determine where our weapons were to go.

Then the President told the story of the fire in a neighbour's house and the loan of a garden hose. Lend Lease as a weapon for the defence of our vital interests had been proposed to the American people in every-day American terms.

A few days after the Press conference, a fireside chat on national defence was announced. Letters and messages began to pour into the White House from citizens all over the country. Most of them told the President that we were in grave danger, that he should tell the country about it without pulling any punches, that he should outline clearly what steps were necessary to insure our national safety. A few honestly expressed the belief—increasingly difficult to hold in the face of the facts—that all this talk of danger was nonsense, and that we need not concern ourselves with anything that Hitler or the Japanese war lords did because we in this hemisphere could defend ourselves alone no matter what happened abroad.

One telegram which arrived at the White House, however, made

the President angry. It did not deny that there was danger. It merely asked him to stop dwelling on the danger. As he said in his fireside chat, "The gist of that telegram was 'Please, Mr. President, don't frighten us by telling us the facts.'" He could not resist a slap at such thinking. "Frankly and definitely," he said, "there is danger ahead—danger against which we must prepare. But we well know that we cannot escape danger by crawling into bed and pulling the covers over our heads."

As most of the messages had asked him to do, the President spoke bluntly. If Britain should go down, he said, "all of us, in all the Americas, would be living at the point of a gun—a gun loaded with explosive bullets, economic as well as military. We must produce arms and ships with every energy and resource we can command."

Then the President summed up our national policy in a world of aggression. "We must be the great arsenal of democracy."

On January 6th, 1941, a week after the fireside chat, the President delivered his annual message to Congress on "The State of the Union."

"I find it unhappily necessary to report," he said, "that the future and the safety of our country are overwhelmingly involved in events far beyond our borders." Then he asked the Congress for the authority and the funds necessary to manufacture additional weapons and war supplies to be turned over to those countries actually at grips with the Axis.

Almost as soon as the President got back to the White House from the Capitol, Secretary Morgenthau and E. H. Foley, the General Counsel of the Treasury, called on him to discuss a proposed bill to carry out the policy of full aid to the democracies. The bill had been first drafted four days before by Oscar S. Cox, a Maine lawyer who had come down to the Treasury in 1938 from the New York City Corporation Counsel's Office. He had worked on the problems of foreign purchases here since the earliest days, and he was among the first to propose the trade in as a method of transferring the rifles to Britain. Later that summer he had dug up the old 1892 statute that had begun the thinking on aid to the democracies in terms of a lease. His draft of the Lend Lease Bill was modelled in part on the Pittman Act passed in the summer of 1940 in order to assist the other American Republics to obtain arms in this country.

After Cox prepared the first draft, the Lend Lease Bill was discussed and revised—by Secretary Morgenthau and the Treasury staff, by Secretary Stimson, Assistant Secretary McCloy, and other War Department officials, by Secretary Knox, by Secretary Hull

and his legal adviser, Green Hackworth, by Attorney General Jackson, by Ben Cohen and by many others—in a series of day and night discussions and drafting sessions. Congressional leaders—Senators Barkley, George, Connally and Harrison, Speaker Rayburn, Representatives McCormack, Bloom and Luther Johnson—were consulted. By the time the bill was brought to the President, it was a joint product of many different persons. A new idea, a new word, a change of phrase came out of every discussion. The staff of the Congressional Legislative Council worked long hours getting the language in the best possible form. The Treasury lawyers worked long hours co-ordinating and reconciling all the suggestions that had been made.

When Morgenthau handed him the bill, the President read it slowly and carefully. After he had finished, he said that it provided for the aid which we had determined to give in the most direct and clean-cut fashion possible. He wanted it brought back to him as soon as possible initialed by Secretaries Hull, Stimson and Knox, by Mr. Knudsen and by Secretary Morgenthau himself.

The next day, Foley and Cox started round Washington for final clearance on the bill. There was another rapid series of conferences, a few more changes were made by the State Department and the War Department. But by five o'clock in the afternoon Secretary Morgenthau and Foley were back at the White House with a bill that everyone agreed on. It bore all the initials the President had asked for.

"This is really a fast piece of work for Washington," the President said with a grin as the draft was handed to him, "and I'm not one to be outdone." He read the bill through carefully, asked a few more questions, and then initialed it himself.

Late in the afternoon two days later, there was a final conference at the White House with members of the Cabinet and Congressional leaders. After he had read the bill aloud, the President made several things clear. First, there should be no limit in the Act itself on the amount of aid that could be given to foreign countries. The appropriations which would be asked for from time to time as money was needed would limit expenditures. The Act itself should contain no maximum. This was an emergency, we could not predict how much aid we would have to give any more accurately than we could predict the course of the war.

Then one of the Senators said he was worried about the provision in the bill for lend leasing Army or Navy material already on hand. "Does this mean that we could give Britain the Battleship——?" he asked, and he named the ship called after his own State. Everyone laughed. But the point was important. The question was to

be asked over and over again. The answer was always taken away a battleship.

be in our best interests in the months to come

"Take an example," said the President "It might be of tremendous importance to the defence of China or Greece if we could take airplanes off our carriers and fly them to those nations. We could replace them for our own use in a short space of time. By making them available now to countries fighting with their backs to the wall, we would help them and help ourselves too. Once you start excluding things from this bill you are bound to end up forbidding something which we will find a few months from now absolutely must be done for our own defence."

Finally, the President emphasized speed. The British had been forced to stop practically all contracting, and orders for delivery in late 1941 and in 1942 would have to be placed very soon. The war would not wait while we debated.

At noon the next day, January 10th, Senator Barkley introduced the bill in the Senate, and Representative McCormack introduced it in the House. The Clerk of the House of Representatives stamped it with the number H R. 1776

## CHAPTER VII

### THE LEND-LEASE DEBATE

THE debate on H.R. 1776—the Lend-Lease Bill—was the final stage in a running national debate that had been going on in the United States with increasing vigour since the fall of France.

In countless speeches, in editorials, in magazine articles, in resolutions adopted by organizations and meetings of all sorts, our Government was urged ever more insistently to increase aid to Britain and the other nations battling the Axis. The "Committee to Defend America by Aiding the Allies" urged a full programme of aid as a necessary step to protect our own security.

On the other side, the "America First Committee" insisted that our national safety was not vitally endangered by the war in Europe and that we should take no steps to help either side. By rearming ourselves, they said, we would secure the defences of the Western Hemisphere even if all the rest of the world fell to the Axis. Innumerable other groups—a small number of them tied up with Axis propagandists, but the great majority composed of loyal,

sincere American citizens—were formed to fight the policy of aid to the nations battling the Axis

During the late summer of 1940, when the destroyers for bases exchange was under discussion, the debate rose in a sharp crescendo as it became focused on this specific proposal. When the transfer was finally made, it was clear, I believe, that a majority of the American people approved. This was still not a clear-cut decision on the basic issue of our foreign policy, however, for no one could deny that we had received an enormous immediate benefit from the exchange—a long chain of naval bases protecting our Atlantic approaches. The issue of all out aid to Britain, China and other nations, with less immediate and tangible benefit to the United States, was still to be thrashed out.

During these months, I must confess that I was sometimes puzzled by the slow pace with which we moved forward in our programme of aid to the nations battling aggression. I knew, of course, that it was the subject of violent controversy among the American people, and I also recognized the natural desire of responsible government officials to move slowly and carefully into new and uncharted fields of national policy. And yet, at times, it seemed to me that the Government lagged behind, even after a majority of Americans were ready for action.

e Looking back now, I think I can understand the basic reason why we had to move slowly. In a democracy, a mere majority is not a sufficient foundation when drastic and far reaching action is necessary to protect the nation in time of peril. At such a time, the people as a whole must stand solidly together, they cannot defend their country and their liberties with sharply divided counsel. Thus, a bare majority was not enough for the destroyers-for bases deal, and even less so for Lend Lease six months later.

The majority had to be so strong and so determined that the will of the country was unmistakable to every citizen regardless of his own views. To have acted suddenly without thorough discussion might have left a dangerous cleavage among the American people at a time when unity among us was more important than ever before. Days and weeks of full and open debate were needed before there was that solid basis of unity in the minds and hearts of the people necessary for the momentous step we were about to take.

This is not the method by which a dictator builds an army for aggression. But it is the method by which the people of a freedom loving nation unite behind their leaders to defend themselves against dictators and eventually to create the overwhelming power necessary to crush them.



At no time in our history have these processes of democratic discussion had freer rein than in the debate on Lend Lease. It

fresh inventory of ourselves, of our past and our future. Then, through our democratic processes, we freely made up our minds on the part we had to play in the affairs of the world if we were to preserve our freedom.

The national debate on aid to the democracies came into ever sharper focus with the President's story of the garden hose, the fireside chat with its pledge of the "arsenal of democracy," and the address on the State of the Union. When the Lend Lease Bill was introduced on January 10th, 1941, the issues were definitely drawn.

H.R. 1776 proposed both a broad principle of foreign policy and a method for making it effective in a world at war.

The principle was contained in the words defining eligibility for Lend-Lease aid—"any country whose defence the President deems vital to the defence of the United States." The word "vital" was the heart of the matter. To favour limited aid to the allies as an expedient device for saving friendly nations from conquest was one thing. To declare that the defence of those nations was "vital" to our own national security was quite another. If we adopted the bill with these words, we would, in effect, declare the interdependence of the American people with the other freedom-loving people of the world in the face of Axis aggression. We would recognize that adding our strength to the strength of our friends was our greatest hope of preserving this nation under those principles of the American faith established in our Declaration of Independence and in the Gettysburg Address.

The method proposed by H.R. 1776 was a logical one for carrying out this principle of foreign policy. The bill authorized the President to "sell, transfer title to, exchange, lease, lend, or otherwise dispose of any defence article" to any nation whose defence he found vital to the defence of the United States. As arms manufactured in this country came off the production line, we would decide where they could contribute most to our security. If they

the bill provided, "may be payment or repayment in kind or property, or any other direct or indirect benefit which the President deems satisfactory." This provision was purposely broad. The greatest immediate benefit to us, of course, would be the use of

Lend-Lease weapons against the aggressor nations. Beyond that, we would expect nations receiving aid to assist us in other ways. But the course of events alone could determine what form these benefits would take.

*In order that the President might act quickly enough to meet the swift developments of the war, wide discretionary authority was delegated to him by the bill. He was to name the nations whose defence was vital to the defence of the United States. Within the limits of Congressional appropriations, he was to decide what arms and other supplies should be transferred and what services performed. It was left to him to decide what the benefits to the United States should be in return for the aid we rendered.*

The bill recognized the total nature of this war in its broad definition of the "defence articles" which might be transferred. We could lend lease weapons of all types for land, sea, or air warfare, all types of transport equipment and services necessary to maintain lines of supply stretching thousands of miles, the machines, tools, and raw materials required to maintain production of weapons in the factories of the nations battling the Axis, food and the means to produce food for their soldiers and their war workers. We could repair, bunker, and provision in our ports and dry-docks the warships and cargo vessels of Great Britain and her allies. We could make available the designs of guns, of airplanes, and any other new weapons we had. And under the same power—"to communicate any defence information"—we could train pilots, gunners, and mechanics here for the air forces battling the Luftwaffe and the Japanese Zeros. These were the essential features of H R 1776.

The formal hearings on the Lend Lease Bill were conducted by the House Foreign Affairs Committee and the Senate Foreign Relations Committee. But the debate went on all over the country—on the radio, on street corners, around the stoves in country stores, at Grange and Rotary club and labour union meetings, in college rooms, and in the churches. The newspapers that streamed from the rotary presses of the great metropolitan dailies and those that dropped one by one from the flat bed presses of the little country papers alike carried editorials, articles and letters to the editor about Lend Lease. Members of Congress found their mail flooded with post-cards, letters and resolutions from individuals, churches, clubs, associations and committees. The people made themselves heard, and their opinions were read into the Congressional Record, everybody counted, from the firemen of Station 4 in Altoona, Pa., to the members of Grange No 1490 of Ozawie, Kansas.

As the weeks passed, it became apparent that we were divided on the issue of Lend Lease without regard to party, profession, background, or creed. Among the college presidents James B. Conant of Harvard said that "our only hope as a free people lies in a defeat of the Axis Powers," while Robert M. Hutchins of the University of Chicago feared that "the American . . .

Throughout the labour organizations of the country there were sharp divisions of opinion. In New York, for example, the Administrative Committee of the American Labour Party formally endorsed the Lend Lease Bill, while the Greater New York Industrial Union Council called it "a war-dictatorship bill."

Business men, too, lined up on opposite sides. One of our industrialists, Ernest T. Weir, who had fought many bitter battles over the Government's domestic policies, announced himself squarely behind the President's aid programme. Another business man, General Robert E. Wood, Chairman of the Board of Sears, Roebuck & Company, was the head of the "America First Committee," a powerful force against Lend Lease. Business associations and councils all over the country passed resolutions on both sides. The churches and the veterans' groups were equally divided.

Among the country's ex-presidential candidates Alfred E. Smith, James M. Cox, John W. Davis and Wendell Willkie supported Lend Lease, while Alfred Landon and Norman Thomas stood firmly opposed. Herbert Hoover, the country's only living ex-President, was against the bill. Thomas E. Dewey came out in favour of the bill shortly before it came to a vote, although he was

It was in the Washington hearing rooms of the Senate Committee on Foreign Relations and the House Committee on Foreign Affairs that all this debate finally centred. To these hearings came as varied a succession of witnesses as Congress has ever heard on a pending bill. The Administration's first team was made up of four members of the Cabinet—Secretary of State Hull, Secretary of the Treasury Morgenthau, Secretary of War Stimson and Secretary of the Navy Knox, two Democrats and two Republicans—and William Knudsen, who had now become Director General of the Office of Production Management.

The list of other witnesses ran the gamut of our national life. Five former United States ambassadors appeared. There were

three ex-Presidential candidates. When the opposition called General Hugh S. Johnson, the majority countered with another columnist, Dorothy Thompson. Colonel Charles A. Lindbergh was brought forward as an opposition witness on military strategy in an attempt to offset the testimony of Secretary Stimson and Secretary Knox. There were distinguished intellectual leaders like President Conant and Dr. Reinhold Niebuhr, and there was Gerald L. K. Smith, then Chairman of what he called the Committee of One Million. There were professors, labour leaders, economists, business men, college presidents, ministers, retired army officers, and public figures of all sorts. There were chairmen and representatives of a legion of little known "Committees."

At times the debate grew violent. Charges of "dictatorship," of "giving away the defences of the United States," of "wildly involving the American people in war" flew freely. One bitter opponent termed the Lend Lease Bill "the New Deal Triple-A Treaty."

of democratic debate. In the end, I know, we were far stronger for it.

In essence, the Lend Lease debate, both in Congress and in the country at large, did not concern aid to other nations, but rather the strategy by which we should provide for the security of our own nation. By the time the debate started, there was little question in the minds of the American people that the United States was in danger. But the character and extent of that danger and the steps we must take to protect ourselves against it were still in dispute.

Those witnesses before the House and Senate Committees and the others who saw the danger most clearly, were convinced first of all that there were no limits to the Axis designs of aggression. As Secretary Hull said, "Mankind is today face to face, not with regional wars or isolated conflicts, but with an organized, ruthless, and implacable movement of steadily expanding conquest." There was no reason to believe that with Dakar in Axis control, and—if the worst should befall Britain—with the Atlantic open to her, Germany would not seize the opportunity to intervene in a Nazi inspired revolution somewhere in South America. Since Germany could not doubt that we would instantly come to the defence of any South American republic menaced by Nazi armies, she might well combine her offensive in South America with an attack upon North America through Britain, Ireland and Greenland, natural stepping stones across the North Atlantic.

"For the first time in modern history," Secretary Stimson said, "the United States is confronted by a nation with an overwhelming army, including an overwhelming air force, and with the possibility of getting control of the Atlantic."

The imminence of this danger to the United States was put squarely by Secretary Morgenthau, after he had outlined Britain's desperate dollar position: "If Congress does not act on this bill, there is nothing left for Great Britain to do but stop fighting."

In the Pacific, the threat to continental United States was not so imminent, but the danger to our overall security was equally grave. Japan's aims, like Hitler's, were clearly without limit. Domination of all China was now an openly confessed goal, and the Japanese were becoming more and more outspoken about their aims for dominating all the rest of East Asia and all of the East Indies as well. Already the Japanese had thrust down into French Indo-China, flanking the Philippines and pointing directly at Singapore and the Dutch East Indies. All this was dignified by the phrase "Greater East Asia Co-Prosperity Sphere," but the actions of Japan in Manchuria and China left no doubt that this was merely a Japanese version of Hitler's "New Order." They were determined to make the whole of East Asia and the Indies into an economic colony for ruthless Japanese exploitation. All hope of equality and free commerce in Asia, for the mutual benefit of Orient and Occident alike, would be destroyed if they succeeded.

In 1941, our two-ocean Navy was still in the building. Our one-ocean fleet was in the Pacific. Our Army was just beginning to expand. We were easier game than than we might ever be again. Such a situation "Mr. Stimson said can easily become critical if British sea power in the Atlantic is lost. Such a disaster would involve not only the security of the North Atlantic but the security of the South Atlantic and South America as well. And if Germany should attack somewhere on the long eastern shore of this hemisphere, Japan might well call any steps we took to defend ourselves an "attack" on Germany and come to Germany's aid with all political, economic, and military means, as she had promised to do in the Axis alliance of September 1940. Japan might well seize this as the most favourable moment that might ever occur for an attack on us—certainly on the Philippines and our other islands, and even perhaps on the Panama Canal, Alaska or some other point on our western coast.

In a sense, the attack on the Western Hemisphere had already begun. The Nazis do not make war merely by building up armed forces at home and then suddenly launching them against an unsuspecting neutral. Their attack on the freedom of a country be-

gins long before their armies march over its boundaries or their air planes appear over its cities. They foment political disturbances. Through *Auslandsdeutsche* organizations and bunds, they build an army within the gates to help them on the day of attack. By cartel agreements and other forms of economic warfare, they do their best to destroy the war industries of a country which they propose to conquer. With their commercial airlines they develop reserves of pilots who know a country well from the air, and they build airfields which may some day be used by their invading air forces.

All this was going on in the continent to the south of us and had been going on for a long time. Some of it was even going on in the United States itself. Hitler was not wasting the men and the money for such an elaborate advance guard of agents to no purpose. "Whether the methods are direct or indirect," Secretary Knox said, "this hemisphere is now in grave danger of invasion."

That was one view of the situation. At the opposite pole of thought, wanting a German victory, were only a small handful of people in the United States—the paid Nazi agents and the fringe of would be American dictators and their followers.

The important opposition to Lend Lease did not come from such people, for few Americans took them seriously. The opposition came rather from sincere and patriotic Americans who did not believe that there was grave danger to the United States in an Axis victory abroad, and that even if there were, Lend-Lease was the wrong strategy for protecting ourselves. They agreed, by and large, that we should build up our own defences, but once this was done, they maintained, we would be safe even if we had to fight alone.

That was what Secretary Stimson called a policy of "defensive defence"—"a defence where the defender stood still entirely within his own boundaries and waited to be attacked, without making any effort to keep the possible attack at as long a distance away from him as possible." Such thinking overlooked the overwhelming strategic advantage that a nation on the offensive always has. We would not have to the Axis nations, pointed out the

study and their strategists carefully prepare to outflank. At their leisure, they would pick the time and place for a surprise attack at the point where we were weakest. And that attack, when it came

of facing the realities of our position. We clung to the belief that we

could stay at peace somehow by a mere effort of our own will. We knew what peace meant—freedom to trade throughout the world, friendly solutions of problems between nations, freedom at home from the restrictions and burdens of a war-economy, freedom to concentrate on the business of making a living and leading a happy life. We had also seen in Europe what total war meant. It meant the regimentation of a country's economy, it meant the services of millions of young men in the armed forces, it meant, in Winston Churchill's famous phrase, "blood, toil, tears and sweat." All of us wanted profoundly to stay at peace.

But the decision was not ours to make. We would be in the war whenever Germany or Japan decided that they were ready to take us on. And we were not yet prepared to defend ourselves. Lend Lease proposed that we stop our enemies, if possible, before they got to our shores by strengthening those countries now standing in their path. "We are not seeking to make a loan to Great Britain," Secretary Stimson said. "We are really seeking to purchase her aid in our defence. We are buying—not lending. We are buying our own security while we prepare."

One objection to this strategy of defence, raised time and again in the hearings, was the doctrine of neutrality which had been evolved during the nineteenth century in response to the desire of nations to continue normal commercial trade with belligerents. The law was a complicated compromise between this desire to trade and the natural desire of a warring nation to cut off its enemy from all outside sources of supplies. Effective blockades were defined, contraband of war was listed. The rights and duties of neutrals and nations at war were carefully detailed. As a part of all this, the doctrine was evolved that wars are neither good nor bad—they just exist. No distinction was to be made by non-belligerent governments between the side that was in the right and the side that was in the wrong.

As the Axis threat grew closer, two basic truths of international law which had lain long neglected underneath the theory of neutrality slowly struggled to the surface. The first was the simple right of any nation to take whatever steps were necessary to protect itself against an enemy clearly spoiling for war—the law of self-defence. As Secretary Hull said before the House Committee on Foreign Affairs, "In the face of the forces of conquest now on the march across the earth, self-defence is and must be the compelling consideration in the determination of wise and prudent national policy."

The second principle might best be called the "law of mutuality." The Axis nations, Secretary Hull said, "have repudiated in every respect the long-accepted principle of peaceful and orderly inter-

national relations I am certain that the day will come again  
 "....." from the effecting of the program to demand  
 : .....  
 : .....  
 : .....

—until the very moment when its armed forces have crossed their frontiers. But so long as such nations exist, we cannot and must not be diverted—either by their threats or by their hypocritical protests—from our firm determination to create means and conditions of self-defence."

We were going back to the fundamentals of foreign policy and international law—self-defence and insistence on mutual good faith between nations. As Secretary Stimson, who had been Secretary of State in President Hoover's administration, pointed out, however, we were at the same time going forward to the full implications of the international law of the twentieth century established by the Kellogg-Briand Pact. All the nations of the world—including Germany, Japan and Italy—had pledged that they would not resort to war as an instrument of national policy. The Axis had broken this fundamental law which all the nations of the world had a vital interest in maintaining. We had no duty to sit idly by and watch the fabric of international society torn to pieces by the Axis nations. "They waived the old rules of international law when they violated the Kellogg-Briand Pact," Mr. Stimson said, "and they cannot, and we cannot, have thrown against us the artificial defence that in defending ourselves against them, or in helping somebody else defend us against them, we are violating these old rules of international law."

Another objection to the Lend Lease Bill, brought forward again and again in the House and Senate debate, was that it gave too much power to the President. Some of this criticism was aimed at features of the bill which could be changed without damaging its essential principles, and various amendments were agreed to. Thus, a two-year time limit—until June 30th, 1943—was placed on the Act. A limit of \$1,300,000,000 was set on transfers out of prior appropriations. Other transfers were to be limited to amounts especially appropriated for this purpose by Congress. It was provided that Congress might rescind the Lend Lease authority at any time by concurrent resolution.

Other proposed amendments could not be accepted. Specifically limiting the countries to be aided to Britain, China and Greece, for instance, would have been fatal. It was pointed out by the opposition that under the terms of the bill the President might aid Russia. Before the year was out, most Americans were to agree that the defence of Russia was clearly vital to the defence of the



# LOANS TO THE ALLIES in the first World War



During the first World War we loaned dollars to our allies (chiefly Britain and France)



Our allies used the loans to buy war goods in the United States



After the war, the only way our allies could get dollars to repay us was to sell us their goods



But economic conditions and trade barriers made this impossible



So the allies were forced to default

United States. The bill had to be left general on a matter like the countries to be aided, the situation was moving too fast to pass a new law every time the strategic picture changed.

The same was true of restrictions on what could be transferred. What it would be in our best interests to transfer to another nation could only be determined when the weapons came off the production line. When the old question about amending the bill to prohibit giving away our Navy came up, Secretary Knox had a ready answer. "In view of what I regard as the likelihood of anybody giving away our naval vessels, we might offer a suggestion that the President be prohibited from going down Pennsylvania Avenue standing on his head."

One other form of attack was made on H.R. 1776 before it was finally passed. A movement was started to go back to the old system of loans that had been thoroughly considered and then rejected by the Administration. But it did not get far. As Mr. Stimson said, "To try to turn the transaction into an ordinary loan is one of the most short-sighted views that a great nation could take. In our own interest—and purely in our own interests—it is good national policy to preserve today a hard fighting Britain, a Britain which has not been ground down by hard bargains sapping its resources. We have to think also of the consequences and conditions which will follow the war. When that time comes, we shall be directly affected by whether or not those nations, whose ways of life and methods of trade are most like ours, are able to recover from the strain of war."

When the hearings were over, the House Foreign Affairs Committee voted 17 to 8 to report the bill favourably "as of the highest importance to the vital interests of our country—and even of our civilization." It reached the floor on February 3rd, 1941. Then followed five days of debate during which all the arguments on both sides were finally summed up. One by one the amendments intended to emasculate the bill or to substitute provisions authorizing a straight money loan or credit were voted down, with plenty of votes to spare. On February 8th, the bill passed by a vote of 260 to 165.

Debate in the Senate began on February 17th after the Senate Foreign Relations Committee had reported the bill with its approval by a vote of 15 to 8, and it continued until March 8th—almost three weeks. Once again all the arguments were summed up. Senator Barkley, Democratic leader, and Senator Austin, deputy Republican leader, led off the debate for those in favour of the bill. Like the House, the Senate voted down a score of opposition amendments. Finally, on Saturday night, March 8th, the opposition gave way and a final vote was taken. It was 60 to 31 in favour of the bill.

The Senate version of the bill went back to the House for concurrence in minor changes, and on Tuesday, March 11, 1941, the House accepted them by a vote of 317 to 71. As soon as the vote was completed, the House Minority Leader, Representative Martin and Republican Senator Vandenberg, both of whom had been active in opposition, issued unity statements pledging full bi-partisan support of the Lend-Lease programme, now that it was the law of the land.

The bill was engrossed immediately and rushed to the White House. At ten minutes before four o'clock that afternoon the Lend-Lease Act became law. The next day Congress was asked to appropriate \$7,000,000,000 to start the production of planes, tanks and guns, raw materials, factory equipment and food for nations whose defence we had now decided was vital to our own.

On March 15th, the President summed up the debate at the White House Correspondents Association annual dinner. "Let the dictators of Europe and Asia doubt our unanimity now," he said. "The decisions of our democracy may be slowly arrived at. But when that decision is made, it is proclaimed not with the voice of any one man, but with the voice of one hundred and thirty millions."

## PART III

# ARSENAL OF DEMOCRACY

### CHAPTER VIII

#### THE BEGINNING OF LEND-LEASE AID

WITHIN three hours after he signed the Lend Lease Act on the afternoon of March 11th, 1941, the President issued two directives putting the Lend Lease programme in motion

Directive Number One declared the defence of Great Britain vital to the defence of the United States. It authorized the Secretary of the Navy to turn over to the British twenty-eight of the swift and deadly PT and PTC motor torpedo boats recently placed in service with the United States Navy, together with 3,000 propelling charges for depth bombs, and some medium-calibre naval guns, gun mounts and ammunition for arming merchant ships

The British originally asked for the PT boats at the time of the destroyer deal. They wanted them for use in the Channel against the expected German attempt at invasion, but the boats were still under construction, and therefore, under the law as it then stood, they could not be transferred. In the spring of 1941, the danger of a successful invasion, though somewhat lessened, remained great, and the PT boats could be transferred under the Lend-Lease Act

The other items included in this first Lend Lease Directive were few in number. But the need which prompted their transfer was one of the most urgent of all—the need to fight the submarines with which Hitler hoped to cut Britain's lifeline to the United States and nullify the effects of America's policy of aid to the democracies. The shortage of naval guns for arming merchant ships was so acute at this time that some of the guns included in the Directive were actually all packed and ready for shipment late in February, when passage of the Lend Lease Act was already assured

Later in 1941, the British received authority from the President to re-transfer some of these naval guns to the Governments of Norway, the Netherlands, Greece and Yugoslavia, all victims of Axis aggression who carried on the fight after losing their homelands and put their merchant ships at the service of the allied cause. So many tankers of the allied fleet had been sunk by U-boats that

even Norwegian whalers equipped with large tanks for whale oil, were being pressed into service to bring oil for Britain's fighting forces. Some of the Lend Lease four inch guns were used to arm these converted whalers.

Directive Number Two, also dated March 11th, declared the defence of Greece vital to the defence of the United States and authorized the Secretary of War to transfer to the Greeks fifty 75 mm guns and 150,000 shells, together with 30,000 shells for 155 mm field howitzers of the type they were using in the mountain fighting against Italy.

The brave and successful fight waged by Greece since Italy's attack upon the little country in October 1940 had been watched with deep sympathy by this country but we had little actual fighting equipment to spare. Before March 1941, the Greeks were able to buy and ship only a few items such as 70,000 mortar shells and several hundred tons of TNT. The competition of other fronts and of our own needs was too stiff. The Greeks, however, received some supplies from Britain, and with what they had, they drove the Fascist troops back into Albania.

During March 1941, the imminence of a Nazi thrust into the Balkans became clearer with the receipt of each new intelligence report. On March 1st, Bulgaria followed Rumania and Hungary into the Axis camp and permitted Nazi forces to enter its territory also. Now Hitler was massing his troops along the Yugoslav and Greek borders.

By the time the Lend Lease Act was passed, there was no time left to do more than make a desperate last minute effort to ship to the Greeks whatever equipment we could find on hand. Their most pressing needs were for pursuit planes and for heavy field artillery and ammunition adapted to mountain fighting. The transfer of the 75's and shells ordered on March 11th was a small contribution towards meeting these needs.

On March 28th a radio message from the President who was away from Washington ordered that thirty Grumman pursuit planes originally scheduled for transfer to Britain be shipped to Greece instead. At the same time plans were worked out for assigning to Greece additional planes and guns out of production in the coming weeks. Some of the Grumman planes already packed for shipment to Britain, were got aboard a ship sailing from New York for the Mediterranean on April 1st. The rest left four days later. The 75 mm ammunition could not be shipped until April 16th, on a freighter which also carried spare engines for the Grumman fighters.

Meanwhile the Yugoslav people overthrew the Government

The tank production programme had a later start than the plane programme. The first pilot models of the General Grant medium tank were just coming through in April 1941. The U.S. Army's light tank programme, however, was going into mass production, and American production of these tanks jumped past 170 in May. The British had placed no orders for light tanks, for they were more lightly armoured and gunned than most of the German tanks. But they were fast and manoeuvrable, and the British now believed they could be used to advantage under the desert conditions of Libya and Egypt. Assignments to the British under Lend Lease of some of this equipment as it rolled out of the factory doors, for use against Hitler in 1941 instead of for practice manoeuvres in this country, supplemented the planes that had been purchased for cash. Out of a total of 538 light tanks produced in April, May and June 1941, 280 were shipped under Lend Lease to the British forces.

On July 9th, the President sent a message to Secretary Stimson stressing the immediate need for assigning to the British medium as well as light tanks out of current production, and asking that every possible measure be taken to increase the monthly output. The Secretary replied that the production schedule for the last five months of 1941 called for a total of 1,350 medium and 1,420 light tanks, he recommended that the British be assigned about half the production of both types.

The number of tanks which could actually be put aboard ship fell considerably short of the numbers assigned, but in all 951 tanks were shipped to the British forces before the end of 1941. Of these 786 went under Lend Lease, the others were tanks the British paid for. Along with the tanks, we sent more than 13,000 lorries, of which over 4,000 were assigned out of current production under Lend Lease. With the help of this equipment, the British were able to hold Rommel in the summer of 1941 and to launch a successful counter-offensive late that autumn.

The business of getting the Lend Lease programme under way during the first few months after the Act was passed had to be carried on in the midst of a series of military emergencies. It was a race against time to prevent immediate disasters. But there was also the slow job of building solidly for the much greater tasks of the future if the aggressors were eventually to be defeated. Lend Lease was brand new—a bold and sweeping vision and an Act of Congress. Much more was required to translate this vision into effective action than legal authority and appropriations. There were dozens of questions of administration and procedure to be worked out. There was endless pioneering to be done in setting

up all the mechanisms necessary to get things moving without too much grinding of gears

In the beginning, the chief responsibility for Lend Lease administration and policy was carried for the President by Harry L. Hopkins and a staff drawn principally from the President's Liaison Committee. Although this staff numbered fewer than twenty people, there were from the first literally thousands of others involved in many departments and agencies of the Government. The Lend-Lease programme cut across the entire war effort. It was intimately involved with our foreign policy, our defence production, our military policy, our naval policy and our food policy.

The Lend-Lease Act itself had been drafted with an eye to making Government departments and agencies

Lease procurement was to be handled through the War Relocation Authority, the War Relocation Authority, the Maritime Commission for merchant ship construction and ship repairs, the Department of Agriculture for food and other agricultural products; and the Procurement Division of the Treasury for raw materials and industrial equipment.

The other departments and agencies immediately took steps to set up the machinery necessary to do the job. Early in April 1941, the War Department created Defence Aid Requirements Committees. These later evolved into the present International Aid Division of the Army Service Forces under Brigadier-General Boykin C. Wright. Similar steps were taken by the Navy, whose Lend Lease Liaison Office is today under Rear Admiral J. M. Reeves. The Treasury Department's Procurement Division was greatly expanded under the direction of Clifton E. Mack to take care of Lend-Lease purchases, and the purchasing staff of the Department of Agriculture, today under Roy F. Hendrickson, Director of Food Distribution, was greatly enlarged to handle Lend Lease requirements for food.

The members of the old Liaison Committee staff carried on without a new title until the President, on May 2nd, 1941, signed an Executive Order giving it formal status as the Division of Defence Administration. Its first Executive Officer was Major-General James

Division took over all the administrative detail of the Lend-Lease programme, but the President continued to sign personally every order for the allocation of funds and every directive to transfer supplies or services.

At the beginning of the Lend-Lease programme, the Division of Defence Aid Reports had a drawing account to work with of \$1,300,000,000 from previous appropriations and an appropriation of \$7,000,000,000 passed on March 27th, 1941. So far as military equipment was concerned, the \$7,000,000,000 could not be turned into deliveries for many months to come because of the time it takes to turn out arms after the orders have been placed. From the \$1,300,000,000 it was possible to transfer equipment already in use which the Army and Navy felt they could spare and to allocate part of the output from current production on earlier Army and Navy orders.

As the size of the first shipments to both Britain and Greece made evident, very little indeed could be spared from existing stocks. From current production we were able to do somewhat more, but the equipment sent to Egypt represented about the limit of what we could do under this authority in view of the need for equipping our own growing forces. In fact, by the end of 1941, we had transferred under Lend-Lease only \$173,000,000 worth of equipment already in use or previously ordered by our Army and Navy.

There was one emergency in the spring of 1941, however, that we were able to meet by using the new \$7,000,000,000 Lend-Lease appropriation. This was the need for food of the British people, whom Hitler was seeking to starve into surrender by submarine warfare.

The first Lend Lease transfer of food was authorized on April 16th, when President Roosevelt directed Secretary of Agriculture Claude R. Wickard to transfer 100,000 cases of evaporated milk, 11,000 tons of cheese and 11,000 tons of eggs to Britain. Eight months later, on the day before Christmas 1941, Lord Woolton, the British Minister of Food, cabled to this Government the gratitude of the British people. Arrivals of Lend-Lease foodstuffs had just passed the million ton mark. Between April 16th and December 25th, 1941, Lend-Lease food shipments tided Britain over her most serious food crisis of the war.

In the spring of 1941 the food shortage in the United Kingdom had reached an alarming stage. Supplies had been growing shorter and shorter since September 1939. Before the war, the British had imported from overseas sources twice as many tons of food as they had raised on their own land. Eggs, butter and bacon came from Denmark and New Zealand, fish from Norway, cheese and vegetables from Holland and France, beef, wheat and flour from Canada,



Australia and the Argentine. A large share of Britain's inbound pre war shipping had been taken up with food for the people and feed for the livestock on the British Isles.

After the war started, Britain began to cut down on her food imports in order to release shipping space for planes and guns and for the raw materials and tools needed for producing more planes and guns in British factories. Then in the spring of 1940 all her important European sources of food were one by one cut off by German occupation and the Nazis launched their intensified U boat campaign. Cargo ship losses shot up to a very high level and remained there. Britain's merchant fleet became smaller month by month as sinkings continued to exceed new ship construction. Many shiploads of food went to the bottom and as shipping space for arms became more precious, food imports from a distance—from areas such as the Argentine and Australia—had to be reduced still further and the ships diverted to other runs. Britain's food reserves shrank rapidly towards the danger point in spite of severe rationing. Between the fall of France and the passage of the Lend-Lease Act, the average British adult, I am told, lost about ten pounds on the rapidly shrinking diet.

Until the spring of 1941, Britain had bought little food from the United States. The need for other war supplies had been so pressing that the British felt they could not divert any of their dollars to purchases of food from the United States. With the coming of Lend Lease it was possible for the first time to obtain food from this country without reducing the flow of American arms.

The first convoy with food laden ships from the United States to reach the United Kingdom in the spring of 1941 arrived not a moment too soon. Hitler was closer than he ever came before or since to starving Britain out. When these vessels docked, there was only a few weeks' reserve supply left in the United Kingdom. Food from these first ships was being served in British homes within a few days after it had been unloaded.

Throughout the spring and summer of 1941 the Department of Agriculture went out on the market in this country and bought tinned, frozen and cured pork, canned fish, evaporated and dried skim milk, frozen and dried eggs, dried peas and beans, canned and dried vegetables, cheese and flour. The shortage of vitamins in Britain was so severe that millions of concentrated vitamins in tablet form were flown to England on the heavy bombers being carried across the Atlantic for the R.A.F. The shipments of food increased rapidly throughout the spring, summer and autumn of 1941. Indeed in 1941 they constituted over half the value of all Lend Lease exports to the United Kingdom.

## CHAPTER IX

## PUTTING SEVEN THOUSAND MILLION DOLLARS TO WORK

WITH a few notable exceptions, such as the tanks sent to Egypt and the food sent to England, actual shipments of Lend-Lease supplies did not have much direct effect on the fighting in 1941. For every shipload of Lend-Lease cargo during that year there were five shiploads of war supplies from the United States for which the British and other Lend-Lease countries paid cash. But

for our own forces as well.

The American arms industry was given a substantial push by the Lend-Lease procurement programme. Between March 27th, 1941, the date of the first Lend-Lease appropriation, and May 31st, more than 4,000 millions of the 7,000 million dollar appropriation had been allocated to the procurement agencies, and actual contracts had been placed for just under 1,000 million dollars worth of supplies and equipment. Of the allocations nearly 2,000 millions were for aircraft, including a special 1,000-million-dollar bomber programme. Few Lend-Lease planes were shipped in 1941, but a vast quantity were ordered for shipment the next year, and the effects of the 1941 Lend-Lease bomber production programme were still being felt in the air over Germany in 1943.

Next to planes, the largest Lend-Lease allocation before May 31st, 1941, was for bombs and shells. Over 1,000 millions of dollars, were

vessels in which to carry Lend-Lease supplies. These allocations, making immediately available large additional amounts of money for war contracts, were among the most important early Lend-Lease contributions to building up American war production. By August 31st Lend-Lease contracts totalling about 3,500 millions had been placed, and by December 7th the figure had risen to more than 5,500 million.

Besides the indirect effect of Lend-Lease orders upon the expansion of America's war-production capacity, hundreds of millions in Lend-Lease funds were directly invested before Pearl Harbour in

new factories, shipyards, processing plants, storage depots and other facilities in this country which, taken together, made an important addition to our industrial plant. These investments, now totalling nearly \$900 000 000, have been made in thirty four out of the forty-eight States in the Union. They range in size from more than \$142 000 000 for war plants in Michigan to \$14 000 for a dry skim milk plant in North Dakota.

Lend Lease money helped to build the great Ford bomber plant at Willow Run, the Chrysler Tank Arsenal in Detroit, and Kaiser's permanent shipyards at Richmond, Cal. It was used to expand the aircraft plants of Douglas, Boeing, Consolidated, Bell, Curtiss Wright, Vega, Grumman, and United Aircraft. Sixty million dollars went for two smokeless powder plants, thirty five million

Boston, and the Maritime Commission was allocated Lend Lease money to build new shipways in the Bethlehem yards at Baltimore, Sun Shipbuilding at Chester, Pa., and other shipyards. Ford, Packard General Motors, Chrysler and Nash Kelvinator are today operating war plants built, converted or equipped with the help of Lend Lease money. Lend Lease money has gone into converting the production of American plants from automobile wheels to gun mounts, from fireworks to ammunition, and from cotton mill machinery to howitzers for mountain fighting. The new factories

play a part in production for American peace time needs after the war is won.

Lend Lease also financed the construction of ammunition docks, heavy lift piers and floating cranes in American ports which since have loaded munitions for American troops as well as for our allies. It has helped to build a whole system of storage depots from coast to coast and many half way stations that have contributed to a more orderly flow from factory to ship-side of war materials for our own and other United Nations forces.

The Lend Lease programme has had an equally marked effect on our capacity to produce food. To meet the new Lend Lease food needs the Department of Agriculture announced on April 3rd 1941, that its "ever normal granary" programme was to be greatly expanded. The Department told the farmers that the Government

would support prices of pork, dairy products, eggs and poultry and other such needed foods "at levels remunerative to producers"

In the following weeks calls were made for increasing United States annual egg production by 300 000 000 dozen eggs, for increasing milk production by from 6 to 8 per cent, for a one-third increase in cheese production, for packing 15,000,000 additional cases of canned tomatoes and for a 35 per cent expansion of acreage planted to the dried beans which are so important as a protein substitute for meat in Lend Lease food deliveries

Although the support buying programme was announced very late in the year to affect 1941 farm production nevertheless the output of food that year was the greatest we had ever had From the very beginning the programme to produce more food in order to meet Lend Lease needs resulted in more food for Americans to eat as well Between March 11th and the end of 1941, for example, we shipped 347 million pounds of meat, while meat production increased by 511 million pounds, we shipped 475 million pounds of evaporated milk, while evaporated milk production in this country increased by 779 million pounds, cheese production increased by 150 million pounds compared with cheese shipments of only 91 million pounds

For 1942 much more ambitious production goals were set As Secretary Wickard told the farmers in a nation wide broadcast in September 1941, "For the first time in the history of agriculture in this country production goals for all essential farm commodities have been established" The Secretary termed it the "Food for Freedom" programme These goals called for the biggest total farm production in history, bigger even than the record 1941 crop

9,000 million more pounds of milk  
500 million dozen more eggs  
10 million more pigs  
2 million more head of cattle  
1½ million more acres of soybeans  
3 million more acres of peanuts

There was still, however, widespread fear of over production of food in this country Many farmers remembered their experience after the great increase in production during the last war, when the bottom dropped out of the market and thousands of farmers went broke The Administration's answer to these fears was its

price support plan and other phases of the farm programme based upon legislation which did not exist at the end of the last war to protect farmers from disastrous price collapses

From farm homes a battle station in the defence of the nation

St . . . . .  
the . . . . .  
stration and 4-H Clubs—tens of thousands of them in the rural counties of America—joined in carrying the message to every farm and every hamlet. The farmers responded magnificently. In spite of farm labour and farm machinery shortages, they succeeded in producing 12 per cent more food in 1942 than in 1941. This made it possible to send 3,750 millions of pounds of Lend Lease food in 1942 to Britain and Russia, while still providing Americans with more food to eat than they had ever had before. Why there have been inconvenient food shortages in spite of this production record is another story. These later inconveniences however, which were due principally to other causes than Lend Lease shipments must not blind us to the very great achievements of American farmers in a food production programme that was begun eight months before Pearl Harbour in response to Lend Lease needs.

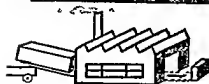
Besides its effect on production of food in 1941 and 1942 Lend-Lease requirements also contributed heavily to bringing about a minor revolution in the processing of food. Just as during the Napoleonic Wars the need for preserving food led to the discovery of the canning process, so the shortage of shipping space in this war has led to major developments in the dehydration of food. Eggs, milk and vegetables that have been dehydrated take as little as one-eighth the shipping space required when they are fresh canned or frozen. Furthermore, they do not need refrigeration; they pack easily and keep well under all sorts of weather conditions.

When the first Lend Lease requisitions for the purchase of dried eggs for Great Britain went through in May 1941, they called for 50 million pounds. This was about five times our total annual production at that time. Powdered milk and dehydrated vegetable productive capacity were likewise far below Lend Lease requirements. With our own armed forces rapidly building up in the spring of 1941, the War Department also foresaw the need for a great increase in the output of dehydrated products if this country were attacked and our troops later had to fight overseas. So the big Lend Lease orders were soon accompanied by large United States Army orders. Together they have resulted in an amazing expansion of American food processing facilities during the past

# HOW DEHYDRATION AND COMPRESSION



save shipping space



**BEFORE SHIPMENT**—Dehydration removes moisture, compression removes air—Volume reduced to  $\frac{1}{7}$



Shipping space is reduced to  $\frac{1}{7}$



**AFTER ARRIVAL**—Water and air added to restore original bulk



two years and in great advances in the science of retaining the nutritional values of fresh foods after dehydration.

Dried-egg production capacity has been multiplied no less than twenty times—from 10 million pounds in 1940 to 225 million pounds in 1943. A 225-million-pound dehydrated vegetable industry has been created from practically zero, and powdered milk production has increased from 500 million pounds annually in 1940 to nearly 600 million in 1943. Hundreds of new or converted factories are now turning out dried milk, powdered eggs, dehydrated vegetables and various concentrates; a brick-and-tile company, for example, now makes dehydrated potatoes, and a paper-sizing plant is now making soup powder. Since Pearl Harbour, United States forces overseas have fully utilized the increased output of these plants, along with the forces of Great Britain and Russia and the people of the liberated areas. It has been another case where application of the principle of Lend-Lease has benefited both our allies and ourselves.

By the end of the summer of 1941, Lend-Lease was rapidly evolving into a broad programme of production and delivery of

rapidly growing extent and complexity. As it did so, the administrative burden grew correspondingly heavier. Besides all the problems of production, there was the marketing problem of disposing of the goods . . . . .

there were . . . . . neighbour republics linked with us in the defence of this Hemisphere. China, which was carrying the burden of defence against the aggressions of Japan, had been declared eligible for Lend Lease aid on May 6th, 1941. Soon afterwards Belgium, Norway and Poland were brought under the programme, and so was the Netherlands, which possessed a great Empire in the East that, like the Philippines, was under the lengthening shadow of Japan. The Dutch continued to pay cash for everything they bought here, but Lend Lease helped them get priorities on the orders they were placing. In August 1941, the first of a series of Lend Lease Agreements with the American Republics was concluded providing for military equipment from the United States needed to strengthen the coastal defences and communications of Latin America.

The event which had the greatest effect upon the planning and administration of the Lend Lease programme, however, was the Nazi attack of June 22nd, 1941, upon the Soviet Union. As the vast battles on the Russian front proceeded, they caused a major revision of the earlier planning for the Lend Lease programme and greatly expanded its horizons.

In the midst of this, I received a message one morning from Harry Hopkins asking if I could come over to the White House to see him. Hopkins was not well at the time and I was shown into his bedroom. He was sitting up, working over a pile of papers on a bed table in front of him. The first thing he said was, "Ed, the President wants you to take over administration of the Lend Lease programme."

That was the first direct word I had that I was being considered for this particular job, although I had been hearing by the Washington grape vine for some time that the President might ask me to take it.

Hopkins went on, "The President thinks there's nothing more important now for the country than getting this Lend Lease show moving at top speed. We stayed up late last night talking over the whole situation, and he feels you're the man to do it."

I told him that I was in Washington to serve wherever the President felt I could be most useful, and that if he wanted me, as Hopkins put it, to run "the Lend Lease show," I would take it on and do my best.

We talked for quite a while about organization problems and

policies and then I asked Is there anything more to consider about this thing? Does the President want to talk it over with me first?

Not unless you have something you particularly want to talk over with him Hopkins answered So far as the President is concerned you re elected Ed

That was on August 28th 1941 and a few days later Mr Roosevelt wrote me a letter confirming my appointment as Special Assistant to him at \$10 000 a year to act as Administrator of the Lend Lease programme It was indeed a great honour to be entrusted with this responsibility Incidentally it seemed good to be back on a salary for I had been working for nothing since June 1940 when I left my job with United States Steel

The President soon afterwards signed a directive under which I was authorized to allocate Lend Lease funds and transfer supplies to Lend Lease countries up to a value of \$300 000 000 Until that time Mr Roosevelt had personally signed every Lend Lease allocation order and transfer letter A few weeks later my authority was extended to cover all funds remaining from the first 7 000 million dollar appropriation Then on October 28th the President issued an Executive Order creating the Office of Lend Lease Administration and authorizing me as the Administrator subject to such policies as he might prescribe to exercise all the powers conferred upon him by the Lend Lease Act and the Lend Lease Appropriation Acts with two exceptions—the designation of Lend Lease countries and negotiation of the Lend Lease Master Agreements The President would continue to declare which countries were vital to our defence The responsibility for negotiating the Lend Lease Agreements was placed in the hands of the State Department

When the President first wrote me of my appointment he added Harry Hopkins is of course familiar with the administration of Lend Lease and I hope you will consult with him and with me where matters of major policy arise Frankly I was at first a bit worried by this letter I was not sure how much real authority I was going to have What followed however soon confirmed that the President meant just what he said—I was to be Administrator in fact and Hopkins was to take over part of the burden for the President wherever consultations on major policy questions were necessary

Harry Hopkins was extremely helpful personally to me during the transition period between the end of August and the creation of the Office of Lend Lease Administration two months later Since then he has shouldered many heavy new burdens such as



his work on the Munitions Assignment Board. But he has always retained his interest in the work of the Lend Lease Administration and has given us very sound advice whenever we consulted him.

I was just beginning to learn the Lend Lease ropes at the beginning of September when the time came to ask Congress for more funds. The first appropriation was running out. More money was needed—\$6,000,000,000 of it—if orders were to be placed to meet the needs of the future. As the new Administrator, it would be my duty to start off the hearings before the House Appropriations Committee, although I was still green on the job. Furthermore, we would not have Major General Burns with us, for he was then on his way to Moscow.

I felt that it would be a good idea to ask the Congressional leaders and the senior members of the House and Senate Appropriations Committees of both parties to come over to the White House, so that we could give them all the facts and talk things over before sending the appropriation request to Congress. We met together one morning in the President's upstairs study.

When the meeting started, the President asked me to explain what the money would go for. After I had finished, we answered a lot of questions and discussed the whole programme in a spirit of utmost frankness. As a result, there was a wider knowledge on the Hill of the needs involved when the House Appropriations Committee began its hearings. We were given an exhaustive going over, of course, in which Representatives Woodrum, Cannon, Taber and Wigglesworth took leading parts, but this examination was based on a thorough understanding of the Lend Lease programme. I felt then, as I still feel, that one of the most important duties of government officials, as stewards of the powers entrusted to them by Congress, is the detailed accounting they render of that stewardship.

The job of organizing the Office of Lend Lease Administration was made easier by the effective work that had been done before I came into the picture by Major General Burns, Philip Young, and the rest of his staff. Oscar Cox, who had originally drafted the Lend Lease Act, became the General Counsel of the Lend Lease Administration. Although we added to the staff as the programme grew in scope, we remained always a small compact organization that never exceeded 600 people. The original policy of keeping the staff down to a minimum and avoiding duplication with other agencies was a good one, and I did my best to follow it.

## CHAPTER X

## LORRIES AND PLANES FOR CHINA

BACK in December 1940 I received from a distinguished Chinese visitor a first hand account of China's struggle to stem the tide of Japanese aggression. T V Soong who was to become China's Foreign Minister a year later had just come to this country and he paid a call on me one afternoon in the Defence Advisory Commission offices.

I had not met Dr Soong before, but I soon understood why he was known as one of China's most eloquent and powerful spokesmen. We talked for some time, not so much about the aid that China needed, as about the over all picture of the war in Asia. Reading between the lines of what he told me, however, I realized that China would need far more powerful support from her friends if she was to carry on the fight against Japan.

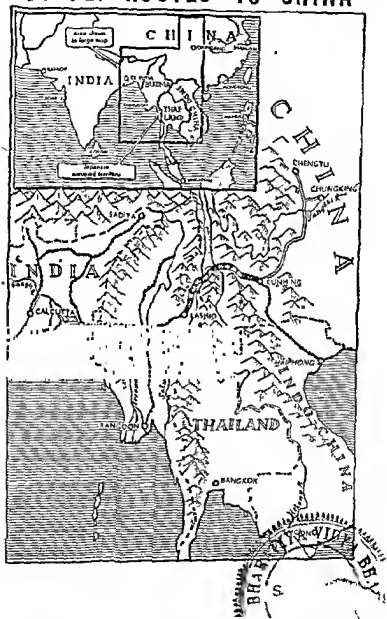
A month later, Lauchlin Currie, one of the President's economic advisers, went to China to make a survey of Chinese needs. His return coincided with the enactment of Lend Lease, and during March and April 1941, Currie, Harry Hopkins, General Burns and others discussed a Lend Lease programme for China that would help to meet the emergencies which Dr Soong had described so well. For over two years the Chinese had been buying supplies in this country with the proceeds of four Export Import loans totalling \$120 000 000. These had been of great value, but now a far broader programme of aid was under discussion.

The new programme was formally launched on May 6th, 1941, when the defence of China was declared vital to the defence of the United States. At the same time China Defence Supplies Inc. was organized by Dr Soong as the official agency of the Chinese Government to handle Lend Lease requisitions.

The greatest obstacle to a substantial programme of Lend Lease aid for China, then as today, was the bottle neck of transport. After Vichy's Governor-General in French Indo-China capitulated to Japanese demands in July 1940 and closed the railway from Haiphong into Yunnan Province, the Burma Road was the only remaining route by which American supplies could reach China.

Construction of the road had been started in 1937, when Japan launched her attack on China. It was pushed through by half a million Chinese labourers working with almost no road building machinery of any kind. A year later, traffic started to move over the route, but it was still no more than a rough dirt road too narrow in many places for two lorries to pass. It wound its dizzy,

## SUPPLY ROUTES TO CHINA



closed by Vichy under Japanese pressure and relaid on the Burma railway. Chinese guerrillas also pulled up rails from railways in occupied sections of China and smuggled them out one by one through the Japanese lines.

From the Lashio end, the first 112 miles of the railway route ran through Burmese territory. In March 1941, the British provided the Burmese Government with money and engineering assistance to carry on construction in their territory. By autumn, this part of the project was well under way. From the Burmese border on, however, there was a section of almost 300 miles on which much work remained to be done. This was the most difficult section of the route, for it ran through the worst malaria country in China. Furthermore, in order to complete the work on this part of the line it was necessary to get the whole Burmese section operating first, so that the rails and other necessary heavy equipment could be brought in. Nevertheless reports of the British, American and Chinese engineers indicated that the most important 400 miles of the railway could be put in operation by the end of 1942 if a really concentrated joint effort were made. Over this route five 200-ton trains could be run every day—30 000 tons a month more for China's armies and arsenals.

Early in June 1941, \$15 000 000 of Lend Lease funds were allocated for this railway, including more than a million dollars to the United States Public Health Service for a mission to fight the malaria menace. A fifteen man mission under Dr Victor H. Haas left that summer, and we shipped medicines, supplies for spraying the malarial marshes, and equipment for first aid stations and hospitals under Lend Lease. In the meantime emergency lots of atabrine and quinine were rushed ahead by air freight from Honolulu and from Batavia in the Dutch East Indies.

When the Lend Lease medical mission arrived, they found the situation so bad that in one construction gang of 2,000 Chinese labourers, 400 had died of malaria, 600 had fled and 80 per cent of the rest were sick. With 200 000 Chinese workmen needed to complete the work, the mission moved fast to get at the mosquitoes in their breeding places, to set up first aid stations and hospitals for treatment of the sick, and to take preventive measures for the well.

Before the mission arrived, it had been extremely difficult to persuade Chinese labourers to go down into the malarial valleys through which the railway was being built. They did not know what malaria was, but a well founded tradition had been handed down from generation to generation about the evil airs that took the lives of those who dared to enter that forbidden territory.

Word of what our doctors were doing soon spread however and groups of workers who had fled to the hills began reporting back to work.

By the summer of 1941, the prospects for widening the Burma bottle-neck were so encouraging that Lend Lease could turn its attention increasingly to the war supplies themselves that were to be sent over the route. China's arsenals in the interior provinces were able to supply some of her requirements for small arms and ammunition but she needed raw materials and machinery to keep them going and she also needed planes tanks and heavy artillery which her own factories could not possibly produce. Some of these had previously been supplied from Russia but after June 22nd, 1941 the Soviet Union was fully occupied on her own soil.

In July 1941 the Division of Defence Aid Reports China Defence Supplies and the War Department started to canvass the possibilities for equipping and training large numbers of Chinese ground forces. These discussions resulted in a project for completely re-equipping thirty Chinese divisions under Lend Lease by the end of 1942. Artillery anti aircraft guns armoured vehicles and tanks were to be sent from the United States. In addition machinery and supplies for China's arsenals would be sent to help increase her own output of small arms and ammunition.

In anticipation of the arrival of these supplies an American military mission under Brigadier-General John Magruder arrived in Chungking in November 1941. The mission, supported by Lend Lease funds was composed of specialists in all the phases of modern warfare. They were to survey China's needs for additional arms and help train the Chinese troops in the use of American equipment.

Little of the equipment scheduled for China's ground forces ever reached China or even got as far as Rangoon before it fell but the United States was more successful in providing China with assistance in the air. Back in November 1940 four months before Lend Lease began General P. T. Mow of the Chinese Air Force and Major-General Claire L. Chennault arrived in Washington on a mission for Chiang Kai shek.

General Chennault was a colonel then on the United States Army's reserve list. Since 1937 he had been serving the Chinese Government as special technical adviser to the Chinese Air Force. He had trained many Chinese airmen and sent them into combat against the Japanese with whatever planes were available—American models dating from the middle thirties a few old German planes, and quite a number of planes from Russia. The Chinese

airmen were good pilots and brave fighters, but their planes were crates compared to the Japanese pursuits and bombers. They were outnumbered twenty to one and one by one they were shot down. By the end of 1940 Japanese bombers were ranging over China practically at will pounding Chungking and other cities and periodically penetrating all the way to the Burma Road.

General Mow and General Chennault came to Washington for two purposes. One was to start a programme for building a strong and well-equipped Chinese Air Force. The second was in the meantime to obtain some fighter planes and to enlist volunteer American airmen to fly them against the Japanese bombers.

Chennault made little immediate progress in achieving his first aim because the machinery of Lend Lease had not yet been devised and set in motion. But in May 1941, soon after China was declared eligible for Lend Lease aid, an American Air Mission headed by Brigadier General Henry B. Clagett, Commander of the Philippine Air Force, was dispatched to Chungking to survey the situation. His report emphasized China's critical need for fighter planes to protect her cities and for bombers to strike back against Japanese bases. But he also pointed out that China had not enough men trained to fly or maintain the many planes that were needed. The mission recommended that the first order of business be a programme to train Chinese pilots and mechanics.

To establish pilot training centres in China would have required the transport of thousands of tons of additional petrol and maintenance equipment for the training planes over the already jammed Burma Road. It was therefore decided that Chinese flyers should be brought to this country for training. Lend Lease funds were allocated for the programme and in October 1941, the first students—a group of fifty, arrived in this country and were sent to Thunderbird Field in Arizona for instruction. At the same time Lend Lease ordered for China nearly 300 fighters, mostly Vultee P-66s and Republic P-43s and fifty bombers, mostly Lockheed Hudson A-29s and Douglas DB-7s. None of these planes reached China before Pearl Harbour.

Chennault's second purpose—to obtain a small number of fighter planes and American pilots to defend China—produced earlier and more dramatic results. The proposal was actively supported by Dr. Soong and was immediately discussed by the Liaison Committee and at the War, Navy and State Departments. By January 1941 plans were sufficiently crystallized for discussion at the White House, and they received the President's blessing.

To find enough planes at that time was not easy. However the rate of production of Curtiss P-40 pursuit planes had just been

substantially increased as a result of the standardization agreement worked out by the Joint Aircraft Committee, and the British agreed to release to China 100 of those scheduled for production on British contracts in February, March and April 1941. Universal Trading Corporation paid the manufacturer cash for the planes—\$8,900,000 in all. All kinds of troubles were encountered in obtaining machine guns, ammunition, armour and accessories to ship along with the planes, but the first thirty six of the P-40s left New York late in February 1941 for the long sea voyage, and between May and October all the planes arrived in Rangoon.

In the meantime General Chennault began his search for pilots and mechanics. With the help of the War and Navy Departments, which permitted some pilots then on active service to transfer to the reserve list so that they might enlist, Chennault eventually secured the services of more than 100 veteran fliers. Over half of them were drawn from the naval reserves, a few from the Marine Corps and the balance from the Army. In addition, 150 technicians and ground-crew personnel enlisted, two-thirds from the Army's reserve list.

Contracts signed by the volunteers offered high pay. Pilots were to receive from \$600 to \$750 a month and ground crews an average of \$300. In addition, the Chinese Government agreed to pay a bonus of \$500 for each Japanese plane that was independently confirmed as shot down or destroyed on the ground.

The first group of American pilots sailed for Rangoon on June 9th, 1941. Others followed in July, August and September. On August 1st, Generalissimo Chiang Kai shek issued an order formally constituting the American Volunteer Group as a unit of China's armed forces. While work was being completed on a home base for the AVG at Kuoming, the British turned over to the Group an airfield and plane assembly shop at Toungoo in Burma, 160 miles north of Rangoon, and another at Mingaladon, just outside Rangoon, for use as training bases.

Through the summer and autumn General Chennault worked to develop his men into a fighting unit. Every one of his pilots had at least 500 flying hours behind him but some had never before flown a P-40 or even a pursuit plane of any type. Worse still, there were terrible shortages of everything needed to keep the planes in the air, except petrol. There were almost no spare parts or extra tyres, and little ammunition for the machine guns. General Chennault even had to adapt commercial type radios because military radios failed to arrive from the United States. Many of the men became discouraged, twenty-five resigned and went home. Early in November, Chennault sent word to Wash-

ington that twenty-three of his planes were disabled for lack of spare engines or other parts and twenty six more were grounded with flat tyres that he was unable to replace. Only forty four planes were in flying condition.

General Chennault's plea for spare parts was difficult to answer. There were spare part troubles everywhere in those days with each new type of plane as it went into action. The British in Egypt and our Air Corps at home were both using P 40's and they too were short of spares. Nevertheless, some of the needed parts and ammunition were collected and sent on their way. The first Lend Lease money used to aid the A V G was spent to buy these supplies. Many went by boat, but those items most urgently needed were rushed by air freight across the Pacific.

By the first week of December, enough equipment had arrived to enable General Chennault to report that he had sixty six P-40's fit for action. He now had ninety trained pilots and a ground crew of 180 Americans and many Chinese. He had organized his A V G's into three pursuit squadrons of eighteen planes each. With more spares so that he could have ten planes in reserve for each squadron and a few more weeks of tactical training he reported, he would be ready to take his men into action against the Japanese. The extra spares he needed were started on their way across the Pacific by clipper a few days before Pearl Harbour.

## CHAPTER XI

### RUSSIA IS ATTACKED

On Sunday, June 22nd, 1941, Hitler launched his attack upon the Soviet Union. He called it a crusade for the preservation of Western civilization against "Asiatic Bolshevism." For more than two months his propaganda machine had been at work to convince us that Germany was ready to make an honourable peace with Britain on condition that Hitler have a free hand in Eastern Europe—that is, against Russia. Goebbels' agents did their best to stimulate fear of communism in America and Britain.

It must be admitted that Hitler had reason for thinking that neither Great Britain nor the United States would work out an effective partnership with the Soviet Union. There were many in Britain and the United States who had viewed communism as an actively dangerous threat to our form of government. There were many in Russia who had suspected the Western democracies would



like to destroy the Soviet State. After Munich, where the Russians considered they had been betrayed by Britain and France, and after the Nazi-Soviet pact of August 1939, which the Allies considered a betrayal by Russia, suspicion on both sides had sharpened. Hitler's peace propaganda in the spring of 1941 was not without effect even upon patriotic Americans who innocently repeated ideas that had been subtly and widely planted by Nazi agents.

The event proved that Hitler had misjudged the peoples and the Governments of all three of the nations which he sought to destroy one by one. He thought of the United States still in terms of the early days of the Neutrality Act, and of England in terms of Munich. He thought of Russia in terms of 1939. He was wrong about all three. The answer he received in London, Washington and Moscow was immediate and positive although it was only a beginning on the long road towards effective co-operation. As time went on, the processes of collaboration on a basis of mutual self interest have been gradually developed in a fighting partnership that will smash the Axis and that also furnishes much hope for lasting peace. But it is worth remembering today that the trend might have been the other way in the weeks following that June Sunday dawn when Hitler's panzers tore into the Russian lines and the Nazis did everything in their power to divide us and to keep us divided.

Neither President Roosevelt nor Prime Minister Churchill hesitated for an instant. Long before the attack on Russia Secretary of State Hull and Under Secretary Sumner Welles had warned the Soviet Ambassador that we had information indicating Hitler planned to launch a surprise attack upon the Soviet Union. Similar warnings went to the Soviet from London.

The day of the attack, Prime Minister Churchill went to the radio, frankly recalled his opposition to communist ideology, and welcomed the Soviet Union as an ally against Germany. "We shall give whatever help we can to Russia and the Russian people," he declared. Then Mr. Churchill met squarely the argument that Britain could now relax. On the contrary her efforts must be redoubled, for Hitler's attack on Russia was plainly meant to be preliminary to a final assault upon the British Isles themselves. The Prime Minister promptly dispatched an air mission to Moscow, and negotiations were begun in London under which Britain would share its still meagre supply of arms with the Red armies. Mr. Churchill's clear-cut stand had a profound effect on public opinion in this country as well as in Great Britain.

On the morning after the German assault, Mr. Hull te

his associates to say that it should be made clear to everybody that the United States Government was whole-heartedly behind Russia from start to finish. Mr Welles, who was Acting Secretary in Mr Hull's absence, formally denounced Hitler's "treacherous attack" on the Soviet and branded it as another proof of the Nazi purpose to win domination of the world. Not communism, he said, "but Hitler's armies are today the chief danger of the Americas." The United States welcomed "any defence, any rallying of the forces opposing Hitlerism, from whatever source these forces may spring."

President Roosevelt declared at his Press conference twenty-four hours later that our Government would help Russia to obtain war supplies in this country, although he emphasized that our most important immediate action should be to speed up the delivery of Lend-Lease supplies to Britain. In this way we would strengthen Britain's attacking forces on the west while the Soviet engaged Hitler's armies in the east. He also said that the combat zone provisions of the Neutrality Law would not apply to Soviet Pacific ports. This meant that American flag ships might go direct to the Far Eastern port of Vladivostok with American supplies.

Aid from the United States to the Soviet Union began outside the Lend Lease programme. In the beginning, neither the American public nor the Government was ready for a declaration that the defence of the U.S.S.R. was vital to the defence of the United States. Furthermore, we had little we could send to the Soviets at once. We were straining every nerve to get the programme of Lend Lease aid to Britain and China to the point where deliveries in substantial amounts could begin.

On June 22nd, 1941, there was a large body of opinion both inside and outside military circles that did not believe Soviet resistance could last long. I recall many discussions in which it was said that the war in Russia would be over by the 1st of August. Those who held that opinion felt that any arms we sent would probably fall into Hitler's hands. The unity of the Soviet people and the strength of the Red Army were under-estimated in those days not only in Berlin, but in Washington and London as well. From the very beginning, however, there were a few who saw the picture much more accurately, and they were listened to both at the White House and at Number 10 Downing Street.

The policy decided upon by our Government was to provide as much immediate aid to the Soviet Union as our own safety and the needs of Britain and China permitted. As the campaign developed and our understanding of the situation in Russia became clearer, we could then adapt our programme to the progress of events.

Since the Nazi-Soviet Pact of August 1939, export licences had, with few exceptions, been refused for the production equipment and raw materials ordered in this country by Amtorg Trading Corporation, the purchasing agency for the Soviet Government in the United States. As a result, supplies for the Soviet had accumulated in storage here. On the day following Mr Welles's statement, a State Department exports committee began to review the list of these frozen goods. About \$9,000,000 worth of supplies were released for shipment to Russia during the next two weeks. There were no weapons on the list, however.

In the meantime the President asked General Burns to set up a Soviet supply division in order to push the programme of assistance. General Burns remembered that Colonel Philip R. Faymonville had recently returned to this country after serving four years in Moscow as United States Military Attaché. He telephoned Faymonville in San Francisco and told him to take the first plane to Washington. The Colonel arrived on Sunday, July 13th, 1941, and immediately started a survey of the possibilities for a large-scale Soviet military supply programme. One of his first steps was to call down from New York as his assistant John N. Hazard, whom he knew as an expert on Russia. Hazard stayed with the Lend Lease programme and later became Assistant Administrator of the Soviet Supply Division of Lend Lease under Major-General Charles M. Wesson, who had been Chief of Ordnance at the time of the transfer of the rifles to Britain after Dunkirk. On July 21st, 1941, President Roosevelt formally delegated to the Division of Defence Aid Reports responsibility for obtaining immediate and substantial shipments of assistance to the Union of Soviet Socialist Republics.

The following day, Colonel Faymonville, members of the State Department Committee, and Brigadier-General Charles B. Hines, then Executive Officer of the Army and Navy Munitions Board, met to go over the Soviet requests for further release of frozen stocks and for the purchase of additional equipment. The Soviet representatives wanted especially machinery and raw materials for armaments manufacture. These requests competed, of course, with the Army's and the Navy's own production programmes and met with considerable resistance, but it was forcefully pointed out that the continued ability of the Soviet Union to fight the Nazis would give us more time to equip our own armed forces. There was a lot of discussion back and forth, but after the meeting, General Burns was able to send to the President for approval the first comprehensive list of supplies for the Soviets. They totalled \$21,940,000 in value.

The next day the list came back from the President with the note, "Take up this morning with the Secretary of War, the Acting Secretary of State, the Secretary of the Navy (if the latter is involved) and get the thing through, because there is some mix up on it, and I would like this thing gotten through by tonight." It went through that night, and procurement of those items on the list not already in warehouses was begun immediately.

Simultaneously a Soviet military mission arrived in Washington after a flight via Archangel and England. The mission was headed by Lieutenant General Philip I. Golikov, who was to become famous in 1942 as commander of a brilliantly led counter offensive in the Bryansk sector on the Russian front, and included also Major General A. K. Repin of the Soviet Air Forces. The members of the mission, accompanied by Ambassador Constantin A. Oumansky, immediately called on General Marshall. The Ambassador acted as interpreter. General Golikov was a man of striking appearance. He was short and heavy set, with a head completely shaved and with pale blue eyes in a face well baked by the sun. He did most of the talking. General Repin, tall and quiet, backed him up. Both generals emphasized the need for speed, but they were completely confident that the Red Army would not be smashed that summer and that it would even be strong enough to seize the initiative when winter came. This was brave talk at that time, with the Red Army reeling back across the Ukraine and White Russia.

It was, however, General Marshall's unhappy task to convince the Soviet envoys that the United States just had not got fleets of planes and tanks, stacks of guns and bombs, and great reserve stocks of machinery and raw materials to send to Russia. This the Soviet generals at first found difficult to believe. They knew of our great industrial resources and had been taught to admire our mass production techniques. No doubt they expected to find that we had already fully mobilized our productive resources. They had begun to mobilize their production shortly after Hitler came to power in 1933. They did not understand our position as an island continent surrounded by seas that had been under the control of friendly Powers for more than a century, and the effect this had upon our thinking and our preparations.

The arrival of the Soviet military mission marked the real beginning of the military phases of the Soviet supply programme. Generals Golikov and Repin met and talked with the President and other high Government officials. Mr. Roosevelt took the matter up at a Cabinet meeting soon afterwards, pointing out that nearly six weeks had elapsed since the Russian war had begun and

that practically none of the materials Russia needed were actually on the way. He asked Wayne Coy of the Office of Emergency Management to follow through on the lists of supplies that had been approved. "Act as a bunt under the saddle and get things moving," he told Coy.

About the same time, Harry Hopkins, Ambassador Oumansky and Arthur Purvis were appointed as an inter governmental committee on Russian aid. Purvis was made a member because it was necessary for the British to give up some of the arms promised to them out of current production if Russia were to get military equipment promptly. This group held its first meeting on August 2nd, 1941, with General Burns acting as alternate for Hopkins, who had gone to London and Moscow. Things really started moving after this meeting, and with the co-operation of the British, who released some Curtiss P-40's they had on order, it was possible to make the first shipment of planes to the Soviet in September 1941.

In the meantime Hopkins, who all along had been far ahead of most of us in sizing up correctly the course of events on the Russian front, had found in London that Mr. Churchill fully shared the President's belief that the Soviet Union could hold out. From London, Hopkins went on to Moscow to see for himself. He arrived on July 30th, 1941, had two long talks with Stalin and returned confirmed in the belief that the Soviet would not be knocked out of the war that summer.

I saw Hopkins just after he got back to Washington. He said Stalin had spoken to him with the utmost frankness at their two meetings and had ended with the flat statement "The Germans will never get to Moscow this year." Hopkins said that what he saw of the Soviet's military power and of the Russian people's determination backed up Stalin's confidence.

On August 18th, 1941, a second list of supplies for the Soviet Union was sent to the President for his approval. It was returned with a large ink scrawled "O K — F D R" on the first page. By the end of September, the programme had grown to a dollar value of \$145,710,823. The Soviet purchased aviation petrol, toluol, machine tools and other industrial equipment, field telephone wire, shoes, cloth and many other supplies. They also sought airplanes, tanks and anti-aircraft guns. By the end of November 1941, we were able to send only seventy nine light tanks, fifty nine P-40 fighters, most of which were released by the British, and a little over a thousand lorries, which were very badly needed. We had few enough planes and tanks to spare and anti aircraft guns were so short that they simply did not exist for export to other countries.

When the President on August 18th, 1941, returned to Washington from his Atlantic meeting with Prime Minister Churchill he was accompanied by Lord Beaverbrook, who had become British Minister of Supply. At that time it was decided to send a combined Anglo American mission to Moscow to work out a long range supply programme for the Soviet on a really large scale. The American membership was announced on September 5th. W. Averell Harriman, who had also been at the Atlantic Conference, was named chief. The other members were Admiral W. H. Standley, Major General Burns, William L. Batt of O. P. M., Major-General James E. Chaney and several technical specialists.

The mission went first to London, where it was joined by the British delegation. Then they went on together by cruiser to Archangel and by plane from there to Moscow. Conferences began on September 29th, and within forty-eight hours the general terms of the supply programme had been agreed upon.

.....

.....  
 commitment of Great Britain. The agreement was signed on October 1st, 1941, by Lord Beaverbrook for Great Britain, Harriman for the United States and Foreign Commissar Vyacheslav M. Molotov for the Soviet Union. This was the First Russian Protocol.

Just before the Moscow conversations Congressional hearings began on the second Lend Lease appropriation bill which we had discussed at the White House meeting. The question immediately arose as to whether Lend Lease aid would be extended to the Soviet Union and whether any of the new money asked for in the bill could be used for that purpose. Attempts to write in a restriction of this sort had been made when the first appropriation was voted that spring.

As the first witness before the House Appropriations Committee, I took the position that the question of making Russia eligible for Lend Lease should be left entirely in the President's hands. I believe I expressed the view of all those concerned with the Lend Lease programme in saying: "A prohibition in this appropriation bill against Lend Lease aid to the Russian Government would be a terrific blow to Russian morale. 'No matter how bravely you fight,' it would say to the Russian people, 'no matter how much your resistance means to our own defence, we won't help you.'" Other witnesses and members of the Committee strongly supported that point of view, and the plan to write in a legislative ban against Lend Lease aid to the Soviet Union was not this time seriously pressed.

The American members of the Moscow mission returned to

Washington on October 20th, 1941, with one of the original copies of the historic Moscow Protocol in Harriman's brief case

The document consisted of seven typewritten pages. At the top of the first page were the words "Confidential Protocol of the Conference of the Representatives of the United States of America, Union of Soviet Socialist Republics, and Great Britain, which took place in Moscow from September 29th till October 1st, 1941." Under the title was a paragraph recording the "unanimous decision" of the conferees for the "provision of supplies which will be made available at British and U.S.A. centres of production" for the Soviet Union between October 1st and the end of the following June. Then followed the list of items, set up in three columns.

In the first column the items were named, beginning with airplanes and tanks, and continuing on the following pages through all the wide variety of supplies necessary for the war—field telephone wire, aluminium, machine tools, armour plate, petrol, rolled brass, barbed wire, army boots, electric furnaces, wheat and scores of others. In the second column, opposite each item, was the quantity requested by the U.S.S.R., and in the third column were notes on how far the United States and Great Britain would be able to satisfy the requests and what each country was to supply. In most cases specific quantities were named. Some were marked for further study. No total dollar amounts were mentioned anywhere in the document. On the final page were diplomatic seals and the signatures of Molotov, Harriman and Beaverbrook.

The evening after the mission returned, I asked them to come to my apartment for dinner. Vice-President Henry A. Wallace, General Marshall, Secretaries Knox and Jones, Under Secretary Forrestal, Assistant Secretary Lovett, Donald Nelson, William Knudsen, and others were there to hear about the trip. After dinner, we settled down to discuss how the promises of the Protocol could be translated into an effective production and shipping programme. Harriman and the others gave us the full story of the trip and the negotiations in Moscow. I remember they repeatedly used the words "tough," "realistic" and "good traders" in describing the Soviet officials, but they did not think the Moscow requests were unreasonable. They had been greatly impressed by Stalin and by what they had seen of the manufacturing techniques and equipment in Russian factories.

One of the things that struck me most when I first took part in discussions of the Soviet supply programme in September and October was the emphasis placed by the Soviet representatives on

materials and tools for their own arms factories. Many of these plants were taken piece meal during the summer to safety in the Urals region in a mass industrial migration that will be one of the most dramatic chapters of the war when it can be fully told. They wanted our planes and tanks too, but they wanted many things that no nation which thought itself on the verge of defeat would have worried about.

Up to the end of October 1941, the Russians were still paying cash for all supplies obtained from this country. The Defence Supplies Corporation had aided them by advancing \$50,000,000 for raw materials to be shipped later from the U.S.S.R. In all, Amtorg had paid out \$92,000,000 since June 23rd. Actual shipments from the United States to Russia up to the time when the mission returned, however, totalled only \$41,000,000.

Great Britain was able to move faster in the provision of arms for Russia than we were in the summer and autumn of 1941. Although her own needs were pressing, her production of medium tanks and planes was at that time greater than our own. M틸da and Valentine tanks reached Archangel on the first large British convoy late in September and were in time to be used in the late October and November fighting. The R.A.F. sent two squadrons of Hurricanes with pilots and ground crews to demonstrate the planes to the Russian Air Force.

Our shortages of military equipment in those days meant that we had to fight hard for every bit of material for the Soviet Union. I remember in particular a telephone call from Hopkins on October 1st, 1941, about some barbed wire. The Russians were desperately short. They wanted 4,000 tons right away as a start. Four thousand tons of barbed wire is more than enough to stretch from Moscow to Sydney, Australia, and back again. The wire had to reach New York in time to catch a convoy leaving in two weeks. Could we do it?

That night at the office we were on the phone until late. We talked with Arthur Whiteside, head of the Steel Branch of O.P.M., with our Army, with the British about stocks they might be able to release, and with half a dozen steel companies. When we compared notes, we found we had only 700 tons lined up. We were offered plenty of barbed cattle wire, but we had to have military barbed wire, which has longer four pronged barbs with less space between.

I called my friend, Clifford Hood, President of American Steel and Wire, who had already come through with a promise of 200 tons they had in stock. He said that by running his mills at top speed through the next week-end he could have another 700 tons.



finished in time to make the boat. The members of the Soviet Supply Division Whiteside's staff at O P M and others kept after every possible source. The British turned over every foot of wire they had scheduled for their own deliveries that month and we got some more from the United States Army.

The barbed wire began to move to port. October 10th was the last day on which shipments could start from the mills or interior depots in time to make the convoy. I remember asking Whiteside one evening over the telephone if we were going to make it. Ed he replied it's an impossibility but we're all staying here tonight to make it possible. We're just taking the stuff and worrying about authority later. We'll do it.

They did. When the ship sailed for Russia she had the barbed wire aboard.

We were not always so successful but our experience with the barbed wire was typical of what it took to get supplies to Russia in those first few months. William Batt and his associates in the O P M worked night and day to secure the raw materials and industrial equipment Russia needed.

On October 30th 1941 ten days after the return of the mission from Moscow the President dispatched an historic message to Premier Stalin. The battle for Moscow was at its height. The Nazis were in Mozhalsk, well past Borodino where Napoleon over a century before had won the battle that gave him Moscow. The Red Army was striving desperately to prevent the closing of the pincers that threatened the capital city on both sides. To the north Leningrad was encircled and apparently doomed. To the south Marshal Budyenny's armies had been cut to pieces the Ukraine was lost and Kharkov had fallen. Soviet casualties totaling more than 1 500 000 men were admitted. Over the radio Stalin called upon his people for another supreme effort to save Russia.

On that day the President told Premier Stalin that he had examined the record of the Moscow Conference and that

All the military equipment and munitions items have been approved and I have ordered that as far as possible the delivery of raw materials be expedited. Deliveries have been directed to commence immediately and to be fulfilled in the largest possible amounts. In an effort to obviate any financial difficulties immediate arrangements are to be made so that supplies up to 1 000 million dollars in value may be effected under the Lend Lease Act. If approved by the Government of the U S S R. I propose that the indebtedness thus incurred be subject to no interest and that the payments of the U S S R do not commence until five years

after the war's conclusion and be completed over a ten-year period thereafter. The President indicated that the payments would be in raw materials and other commodities.

On November 4th Stalin replied:

Your assurance that the decisions of the conference will be carried out to the limit is deeply appreciated by the Soviet Government. Your decision, Mr. President, to grant to the Soviet Union a loan in the amount of 1,000 million dollars subject to no interest charges and for the purpose of paying for armaments and raw materials for the Soviet Union is accepted with sincere gratitude by the Soviet Government as unusually substantial aid in its difficult and great struggle against our common enemy—blood-thirsty Hitlerism. I agree completely, on behalf of the Government of the Soviet Union, with the conditions which you outlined.

The special terms for repayment of the thousand million dollar credit agreed upon in this exchange of telegrams are no longer in effect. They were superseded by the Lend-Lease Act.

These terms were put on the same basis as those with Great Britain and China.

The exchange of communications between the President and Stalin was made public on November 6th, and on the following day, the twenty-fourth anniversary of the Russian Revolution, the President officially declared the defence of the Soviet Union vital to the defence of the United States. The fate of Moscow was still in the balance, but Russia had from us the assurance that the productive power of this country was squarely and firmly on her side, and on a grand scale.

## CHAPTER XII

### THE SEA LANES

ON May 12th, 1941, people in Norfolk, Va., saw a badly battered aircraft carrier move slowly into the harbour and make for the dry dock at the U.S. Navy Yard. She was the *Illustrious*, queen of the British Mediterranean fleet, and she had made the Atlantic crossing only by the grace of a heroic patching job performed months before at Malta under a hail of Nazi bombs. The Germans, in fact, had declared that the *Illustrious* was so badly damaged she would never fight again—and for once at least, they had been almost right.

On January 10th, 1941, the big aircraft carrier and other British warships were escorting a British convoy through the Mediterranean from Gibraltar with supplies for Greece and the Eighth Army in Egypt. Since Italy's entrance into the war, this had been a risky business, but the British had previously been able to fight off the Italians without serious losses. This convoy, however, reached the narrow Sicilian straits just a week after the German Luftwaffe first established itself in Sicily. Waves of Stuka dive bombers roared down on the convoy, they concentrated their attack on the *Illustrious*. A 1,000-pound bomb smashed her landing deck, and other hits tore great holes in her side and put her steering gear out of commission. For a time she circled helplessly, but eventually she managed to make Malta, while the rest of the convoy proceeded after suffering other heavy losses. Although she was bombed again at Malta, while the emergency repairs to make her navigable were in progress, the *Illustrious* was eventually able to get away and make the long trip through the Suez and round Africa to the United States. She was so badly damaged that she was laid up until September in dry dock at Norfolk. Then, under the command of Lord Louis Mountbatten, she returned to the fleet, and to the fight.

The convoy the *Illustrious* was protecting in January 1941 was the last large one that the British attempted to send from one end of the Mediterranean to the other for more than two years. It was another victory for Hitler in the battle of the supply lines.

The Axis has had all the advantages of communications in this war. It has held the inside lines. In Europe, Hitler has had at his command a compact network of railways and paved highways. His only over-water supply lines—from the Scandinavian peninsula to Germany and from Italy to Africa—were short and well protected. Japan, like us, has been dependent on the sea lanes, but hers have been much shorter than ours and have been operated inside a protecting ring of naval and air bases.

United Nations supply lines on the other hand, encircle the earth. It is over 10,000 miles by ship from England, and over 12,000 miles from the United States, all the way round the Cape of Good Hope and up the Red Sea or the Persian Gulf, to the ports of the Middle East. It is 4,500 miles from New York to Murmansk. Even our shortest Atlantic supply line—from the United States to Britain—is 3,000 miles long. It is half-way round the world across either the Atlantic or Pacific to India and the present ports of entry for China.

When the Lend Lease Act was passed, the sea lanes to Britain and the Middle East were being heavily attacked by German sub-

marines, planes and surface raiders. Many other British warships besides the *Illustrious* had suffered battle damage. British shipyards were strained to the limit and were under air attack as well. To get these damaged warships back into service as quickly as possible, Lend Lease funds were allocated to repair them in American shipyards.

The *Illustrious* was not the first British ship to take advantage of this programme. Eight days after the passage of the Lend Lease Act, the armed British merchant cruiser *Canton* limped into the Bethlehem Shipyard in New York Harbour. She was followed by the damaged battleships *Malaya* and *Resolution*, that reached the New York and Philadelphia Navy Yards on April 9th and 22nd, 1941. Among the many allied warships that have since been repaired or reconditioned in our own shipyards have been the British battleships *Rodney* and *Royal Sovereign* and the Free French submarine *Surcouf*, largest in the world, and since lost at sea.

Equally as important has been the Lend-Lease merchant ship repair programme, under which hundreds of cargo vessels and tankers have been repaired, armed and outfitted for protection against mines. Norwegian, Dutch, Greek and other allied vessels, as well as British, have had this service. Special tools, parts and equipment needed to repair allied ships have been assembled in our shipyards.

After our own entrance into the war, we received the reciprocal use of British ship repair facilities throughout the world, and we have taken full advantage of the British shipyards, British money, British labour and British stores thus given to us.

The ship repair programme has, of course, been only one part of the answer to the problem of maintaining supply lines across the seas. From the beginning, Britain desperately needed more merchant ships. When the President, on May 27th, 1941, declared an Unlimited National Emergency in the United States, he warned, "The present rate of Nazi sinkings of merchant ships is more than three times as high as the capacity of British shipyards to replace them; it is more than twice the combined British and American output of merchant ships today."

The United States early took steps to answer this need. Fortunately, we had already started to expand our production capacity for merchant shipping.

In the ten years before 1936, only two cargo vessels for foreign service had been built in the United States. Then in 1936, Congress created the Maritime Commission. Almost at once the Commission launched a programme to build one large passenger ship,

the *SS America*, ten tankers and ten cargo vessels, and to aid private shipping lines to build an additional sixty-five cargo ships. This programme, concentrating on the now famous "C" series cargo vessels, revitalized our ocean-going shipbuilding industry, and by offering a standard design, it encouraged experiments in applying mass-production techniques to shipbuilding. In 1939, American shipyards turned out twenty-eight ocean-going vessels of 342,032 deadweight tons, and by 1940, ship production was up to fifty-three ships of 641,056 tons.

In the late autumn of 1940, the British entered the American shipbuilding picture. They had been buying ships here since the outbreak of war. From the Maritime Commission they bought vessels built during the last war, from private shipping companies they bought vessels forced off the European run at the outbreak of war by the Neutrality Act—in all over eighty ships totalling nearly 750,000 deadweight tons. By the end of 1940, this source of supply had dried up, and the British sent a shipping mission to this country with instructions to place contracts for the construction of sixty ships a year in American yards.

The British Mission, like so many others, found that new facilities would have to be built. They talked to many firms and finally picked out Todd Shipyards and Henry J. Kaiser's Six Companies Inc. The Todd Company was an old Maine shipbuilding firm. Kaiser had never built a ship, but he had revolutionary ideas for applying mass-production techniques to shipbuilding. On December 20th, 1940, contracts were signed for construction of two yards—one at Portland, Maine, and the other at Richmond, California—and for thirty ships to be built in each.

The British paid out more than \$17,000,000 to build the new yards and agreed to pay \$87,000,000 additional for the ships themselves. The ships were to be of a new design—the Ocean Class. It was a British design for fast war time construction, modified in the light of American shipbuilding methods. The result was so successful that many important features of this design were incorporated in our own Liberty Ships, which we started building a few months later.

In February 1941, the Maritime Commission launched, under the authority of a Lend Lease Act, the Emergency Shipbuilding Program. This program authorized the construction of 227 cargo vessels, 112 of which were to be Liberty Ships and the balance tankers and "C" series cargo vessels. Out of the Lend Lease

allocation, \$50,000,000 was for additional ways in American shipyards

After Pearl Harbour, the American shipbuilding programme was increased again and again until it finally called for the production of a total of 50,000,000 deadweight tons by the end of 1944. American industry has risen to this challenge. In the month of September 1941, when the first Liberty Ship was launched, American shipyards were able to complete only seven ships totalling 64,450 tons. Two years later, in September 1943, the number had risen to 155 ships in a single month, aggregating almost 1,700,000 tons. That was about five new ships every twenty four hours. Of the 2,000 odd ships built under the Maritime Commission programme or with Lend-Lease appropriations up to that time, about 300 have been turned over on a charter basis under Lend-Lease to the British, the Chinese, the Norwegians, the Greeks, the Dutch and other United Nations. Title to all these ships remains with the United States Government.

While the shipbuilding programme launched in the early months of 1941 has produced remarkable results, they were not in the main realized until after Pearl Harbour. To make merchant vessels available for use on British routes in the summer of 1941, two million tons of cargo ships and oil tankers were assigned—135 vessels for the Red Sea run and 185 for the North Atlantic. The ships to satisfy the programme were obtained by requisitioning seventy-two Axis vessels totalling nearly 500,000 tons which had been tied up in American ports since September 1939, by chartering other ships from their American owners, and by using others owned by the Maritime Commission. Lend Lease funds were used to finance the programme.

At the same time, another important step was taken to ease the shipping problem to the Middle East. On April 8th, 1941, British forces in East Africa captured Massawa, the main Italian Red Sea port, and the Italian warships there were scuttled. The campaign in East Africa was drawing to a close. With the Red Sea completely in control of the British, the President announced on April 11th that these waters were no longer a combat zone. This meant that American-flag vessels, previously barred from the area by the Neutrality Act, could now carry supplies on the long route round the Cape of Good Hope and up the Red Sea to Egypt.

But there were other problems in the strategy of supplying the Middle East besides that of getting goods across the vast ocean distances to the Red Sea. South of Suez, the ports were primitive, with few docks and little equipment for unloading vessels. There

arrived. It was necessary to send materials for building new docks, repair depots and storage warehouses, tools and skilled mechanics to assemble and repair the tanks, rails, goods wagons and locomotives to move them towards the fighting lines, road building machinery to make trails into passable roads, and lorries to run on the roads after they had been built.

Late in June 1941, the British began to discuss with officials of the Division of Defence Aid Reports the steps that might be taken to help develop this area. The discussions led eventually to a comprehensive programme, including air and naval bases, repair depots, assembly plants, hospitals, radio stations, airports, fuel stations, roads and railways in Egypt, Eritrea, Iraq and Palestine. The first allocation of Lend Lease funds to the War Department for this work was made on October 2nd, 1941.

The projects included the salvage of Italian ships sunk in the harbour of Massawa, which had made this Eritrean port of little use. New docks were to be built at Massawa and huge cranes and other equipment from this country were to be installed for unloading ships. In addition, road building equipment, rails, cars and locomotives, lorries, machine tools, portable housing materials and many other supplies were to be shipped. Another project near Cairo called for construction and operation of large shops for the service and repair of American type lorries, tanks and ordnance. Similar repair shops were to be built in Palestine and Eritrea.

All these projects were undertaken jointly with the British, who also put men, money and equipment into the job. After our entrance into the war, American Army engineers took over a large share of the work, and it continued through 1942 and 1943 until the Mediterranean was reopened to Allied shipping.

When the Red Sea projects were begun in the summer of 1941, they were linked with a similar programme for the Persian Gulf. To carry out the American and British programme of aid to the Soviet Union, it was necessary to develop all possible supply routes to Russia. Besides the Pacific route to Vladivostok and the North Atlantic route to Murmansk and Archangel, there was only one other possible alternative—a route through Iran. A single track railway crossed Iran from the Persian Gulf to the Caspian Sea. From there supplies could go by ship and rail into Russia. Though it was a difficult route, the British were convinced that it offered real possibilities, if the ports could be improved, the capacity of the railway increased, feeder highways built and thousands of lorries supplied.

Iran was swarming with Axis agents, and even the Shah was

pro Axis To make sure that the Iran corridor was kept out of Axis hands, British and Soviet troops jointly occupied the country in the last days of August 1941 The Shah abdicated in favour of his son, his Nazi advisers were thrown out, and a government sympathetic to the Allied cause took power Under a Soviet-British-Iranian agreement the country was divided into two zones the Russians taking the responsibility for supply operations in the north and the British in the south

An effective supply route through Iran to Russia could not be developed without assistance from the United States Lend Lease requisitions were filed in September and October for ninety six diesel locomotives, for more than 2,000 closed and open goods wagons, and for 230 miles of railway track Additional equipment was sought to dredge deep water berths, to build new docks and to provide unloading facilities at the ports at the head of the Persian Gulf Lend Lease orders were placed for lorries, and projects were discussed for building large lorry and aircraft assembly plants near by The first allocations of Lend Lease funds for the Persian Gulf programme were made on October 2nd 1941

The British, of course, spent large sums of their own on the projects They also bought with their own money in this country equipment for the British owned refinery in Abadan, at the head of the Persian Gulf This made possible great increases in the production of aviation petrol for Allied forces in the Middle East and India

While we were taking steps to improve the supply lines to the Middle East, we were also looking after our interests in the North Atlantic There we had the dual task of helping to get war supplies to the British Isles and strengthening the outer defences of America in the North Atlantic On April 9th 1941, we concluded an agreement with the Danish Minister under which we undertook to defend Greenland against Nazi penetration in return for the right to build air and naval bases there On July 1st, 1941, the President declared the defence of Iceland vital to the defence of the United States Six days later, he announced that American armed forces had landed in Iceland at the invitation of the Icelandic Government and that we were taking over from the British the responsibility for defending the island against any Nazi attempt to seize this mid Atlantic base "As Commander in Chief," the President said in his announcement, "I have issued orders to the Navy that all necessary steps be taken to insure the safety of communications in the approaches between Iceland and the United States, as well as on the seas between the United States and all other strategic outposts"



A joint British-American mission had just completed a survey of Iceland's possibilities as a base. Supplementing the Army's programme for the necessary barracks and other installations, detailed plans were drawn up for a large naval operating base and a fleet air base for the joint use of ourselves and the British. On September 25th the Navy Department concluded a contract with two American construction companies to build the bases. Shortly thereafter the British allocated the equivalent of \$2,000,000 in local currency and Lend Lease \$1,500,000 for the work.

The Nazis would not, however, permit us to build up our defences in the Western Hemisphere unmolested. During the summer of 1941, two United States owned merchant ships flying the flag of Panama, the *Sessa* and the *Montana*, were torpedoed and sunk while carrying supplies to Iceland. Then on September 4th, 1941, the United States destroyer *Greer* was attacked by a German submarine while carrying mail to Iceland.

One week later, the President went on the air to denounce these attacks as acts of international lawlessness. "American naval vessels and American planes," he warned the Axis, "will no longer wait until Axis submarines lurking under the water, or Axis raiders on the surface of the sea, strike their deadly blow first. From now on, if German or Italian vessels of war enter the waters the protection of which is necessary for American defence they do so at their own peril."

During the summer of 1941, Lend Lease was also helping the British to protect the sea lanes in that part of the North Atlantic which was beyond the Western Hemisphere defence zone. Since the fall of France, Britain had been forced to route all her Atlantic convoys round the northern end of Ireland, to avoid the danger of Nazi attacks in the English Channel. Additional bases were badly needed in Northern Ireland and Scotland for the destroyers and planes guarding these convoys.

On April 18th, 1941, President Roosevelt authorized the allocation of \$50,000,000 of Lend Lease funds to the Navy Department for construction of two seaplane and two destroyer bases for the British, and on June 12th Rear-Admiral Ben Morrell, Chief of the United States Navy's Bureau of Yards and Docks, let the contracts. The British provided pounds sterling for materials that could be obtained locally and for payment of local labour. Most of the machinery, the engineers and the skilled labour had to come from the United States. The construction equipment and more than a thousand American engineers and mechanics were assembled at Quonset Point, R.I., and taken to Northern Ireland and Scotland on ships provided by the British Ministry of War.

**Transport** The first ship left on July 6th, 1941, and it was followed by others throughout the summer and autumn

A destroyer base at Londonderry was the most important of these projects. The others were a seaplane base in Northern Ireland, a seaplane base in Scotland and a base on the west coast of Scotland for destroyers and submarines. When these projects were begun we were not at war, and the supplies, equipment and skill which we furnished in the form of Lend Lease aid were to help the United Kingdom defend her side of the Atlantic. After we were attacked, however, we were able to use these bases almost immediately for our own needs. They have been of immense value to us.

Three weeks before Pearl Harbour, the United States took a final step towards keeping the sea lanes open. Beyond Iceland the sea lane to the British Isles had been closed to American flag vessels by the combat zone provisions of the Neutrality Act. On November 17th, 1941, these were repealed by Congress. Thereafter our merchant ships could be armed, could enter combat zones and could carry supplies directly to the ports of nations at war against the aggressors.

### CHAPTER XIII

## THE AIR LANES

To get our planes into the fight faster than ocean going ships can carry them, we and our allies have built in the last three years a globe-encircling system of air lanes. Hundreds of bombers and long range fighters move daily over these routes on their way to the battle stations, as do fleets of transport planes carrying fighting men and loads of emergency supplies. In the development of these air lanes, Lend Lease was in the forefront.

With the fall of France, the last land front in Europe was lost but the war continued in the air with growing violence. By flying the bombers which Britain had ordered in the United States instead of sending them on slow ship convoys, Britain's striking power in the air could be reinforced far more quickly, and increasingly scarce shipping space could be released for other essential supplies. The ferrying of airplanes from the United States was begun by the British late in 1940.

To operate the service, the British organized a corporation known as "Atfero". Ferry crews were recruited from British Overseas Airways, Canadian airlines and even U.S. airlines. Many

from Britain by way of Gibraltar and Malta, but because of the distance between airfields, it could not be used by any planes except long range bombers and transports. And the route was not usable even by them, because Malta's airfields were under constant attack from the Luftwaffe and the route was vulnerable at many other points as well. The air lane to the Middle East through the Mediterranean was cut just as effectively as the sea lane.

There was however, an alternative to sending the planes all the way round Africa by ship from Britain and the United States. In 1936, British civilian airmen had pioneered an air route westwards from Khartum, in the Anglo-Egyptian Sudan, 2,250 miles across the continent to Lagos in Nigeria on the Atlantic coast of Africa. A year later the service was extended to Accra and Takoradi in the Gold Coast. A few small airfields had been cut out of the jungles or laid out in the desert at spots hundreds of miles from civilization. When the Mediterranean air lane to the Middle East was severed, the British had been able to establish an air transport service from Britain to Gibraltar and then skirting the west coast of Africa to the Gold Coast. Service on the long over water route from Britain was maintained by three large flying-boats which Pan American Airways had released and the British bought for cash. From the Gold Coast to Egypt, a limited service was maintained across Africa by land based transports.

Over the African route, British pilots in 1941 were flying fighter planes brought by ship from Britain to Takoradi, where an assembly plant equipped to assemble 200 planes a month had been built by the British. The route saved many weeks over the time consumed on the Red Sea run round the Cape of Good Hope, but in the spring of 1941, it was still a primitive affair. Many planes were cracked up and lost on the way. The landing fields were little better than emergency affairs and most of the runways were too short even for medium bombers.

The only way to get more planes to Egypt in a hurry was to make over the Trans African route into a really effective air lane, capable of taking not only more fighters but bombers as well, and to establish an air lane across the South Atlantic so that bombers could be flown all the way from the United States. From Miami the route would run to Brazil by way of British and American airfields in the West Indies. From Natal on the bulge of Brazil there was an 1,800-mile over water hop to Bathurst, where the South Atlantic route would join the Trans African route.

It was a job that required several hundred more experienced ferry pilots, as well as a regular transport service to bring them

back on return trips, to carry out light emergency freight and to take military personnel back and forth across Africa. In Africa an enormous amount of equipment would be required for building and expanding airfields, setting up emergency fuel depots, radio and weather stations. It would be necessary to send the service personnel and ground crews needed to man and run the airfields. The hard pressed British had neither the men nor the equipment to spare. Airfields on the route from Miami to Natal had already been expanded by Pan-American Airways, but even on this side there was a serious problem. There was doubt whether Brazil, which was then neutral, would permit military planes to cross her territory or use her airfields.

How was it to be done?

The problem was discussed at a series of urgent meetings during late May and June 1941 between British, Lend Lease and Army Air Corps officials. There were few Army airmen then equipped by training or experience for the hazardous run. If it were undertaken at all, it would have to be by a commercial airline, with the facilities and experience to swing it. After consultations with the Civil Aeronautics Authority and with representatives of the commercial airlines, the War Department picked Pan American Airways, which had been flying a route to Brazil for ten years and one across the Atlantic to Lisbon since 1939.

Juan T. Trippe, President of Pan-American, spent many days in conferences at the Division of Defence Air Reports and with the Air Corps and British representatives. Early in July, Pan-American entered into a contract with the British to ferry from Miami to Bathurst a few transport and cargo planes which were badly needed in the Middle East and Africa. Then on July 15th, the British filed a Lend Lease requisition for the establishment of a permanent ferry service over this route. Twelve days later, a Boeing Clipper was winging its way across the South Atlantic with a Pan-American vice-president and other airline operating men aboard to survey the route.

Soon after their report had been received, Pan American Airways signed three contracts with the War Department—one for the operation of a transport service across the South Atlantic to Africa, a second for a transport service across Africa itself, and a third for the ferrying to Egypt of bombers built in this country and fighters assembled at Takoradi, together with the development and operation of the necessary airfields. An allocation of \$20,600,000 of Lend Lease funds was made to cover expenses of the operation.

In the meantime discussions between Brazilian, British and

American officials were under way concerning the use of Brazilian airfields. Brazil offered its full co-operation and provided a corridor through which American transports and combat planes could be flown to Egypt and the Middle East.

On August 19th, the White House announced that arrangements had been made to do the job. To take care of the air freight on the route, twelve DC-3's were assigned immediately, and eight additional transports were promised later. Pan-American was able to enlist some experienced commercial fliers as ferry pilots, but many more were needed. A large scale training programme for pilots and navigators was started in Miami. Hundreds of mechanics, meteorologists, radio operators, surveyors, construction engineers, foremen, ground crews and other personnel were enlisted.

At the same time, airfield equipment of all types was assembled in New York to go by ship to Africa. Pan American officials picked up equipment from airports all over the country and sent it in pieces to the African jungles. Mayor La Guardia of New York came through with some steam shovels and graders that the City was willing to sell. Other equipment was collected from many sources. The first three boatloads of this miscellaneous cargo left in September.

That was only the beginning of the job. In Africa the material had to be carted inland hundreds of miles. It was possible to use narrow gauge railway for a short distance in from the coast, and the airport crews managed to drive lorries along jungle and desert trails hardly intended for wheeled vehicles. They flew in as much of the light stuff as they could, but a great part had to be packed in on the backs of native carriers.

The country was healthy for neither planes nor men. The worst enemy was malaria, and an anti malaria mission was sent in to fight the mosquitoes and keep the casualties from the disease down as low as possible. On top of all the other difficulties of distance, jungle communications and a hot climate, ants were also a dangerous enemy. Armies of them had a habit of invading the airfields and raising in a few hours ant hills over a foot high that could upset a plane while landing or taking off. Insecticides and equipment had to be sent to fight ants as well as mosquitoes.

The Trans African route ran from the swamps and jungles of West Africa through areas in middle Africa, where the scorching desert wind known as the Harmattan sweeps down from the Sahara, cutting visibility to 200 yards or less, sifting fine sand into airplane motors, and covering machines, beds, food and everything else. Here in the centre of Africa rule local chieftains whose courts and retinues suggest tales from the *Arabian Nights*. To this

remote and primitive country, the airport crews brought not only the planes of the second World War, but the danger of bombing is well, for there was the ever present possibility of attack by the Luftwaffe operating from Italian bases in Libya.

The expansion of this air lane got a good start in 1941. The number of planes that were ferried over it and the number of pounds of air freight carried over it to the Middle East increased rapidly from month to month. The first bombers to go all the way to Egypt by air from the United States left in October. They were twin-engine Martin B-26's. More British fighters assembled at Takoradi were flown across Africa. With the help of these flight delivered planes the British were able to build up their air strength in time for the first campaign which threw Rommel back from Egypt in November 1941.

Coupled with the improvement of the Trans-African air lane was a project for the construction of airplane repair and maintenance depots in the Middle East. Some were to be built in Egypt and Palestine as joint British and American ventures. The largest was to be at Gura, near the captured Eritrean port of Massawa. There the airport was to be enlarged, repair and assembly depots built to handle many different types of planes, and barracks built to house 2,500 R.A.F. personnel and American mechanics.

Even before Pearl Harbour, it became evident that the air route to Khartum and Cairo was only a start. After the Harriman mission returned from Moscow, plans were made to extend the route to the Iranian gateway to Russia, and as the crisis in the Pacific deepened, a connection to India and Rangoon was necessary. The expansion and improvement of the route continued in 1942 after we entered the war, and in the autumn of that year the Army took over ferrying operations and the management of the airfields in Africa.

Many thousands of planes have been taken into action over the Trans African route since the weeks in the summer of 1941, when the project was little more than a daring dream. Every type of plane has flown the route—fighters and pursuits from the west coast of Africa or from aircraft carriers which carried them within flying distance of the front, and heavy bombers all the way from the United States, which the British have been able to use by air.

with the help of special auxiliary fuel tanks. And the transports have carried many important loads of air freight.

It is fair to say that if we had not joined the British in developing this route, and if we had not received the full co-operation of the Brazilian Government, the Eighth Army could not have

gained in time the smashing air superiority that made possible the victory at El Alamein. Nor would our deliveries of planes to the Russian front have come within many hundreds of what we have been able to accomplish. We have used this route to fly bombers to the United States Air Forces in the Middle East, and since the invasion of North Africa, we have used it part of the way for ferrying planes to our forces in North Africa, Sicily and Italy.

When the development of the Trans African route was just getting under way in the autumn of 1941, after I had become Lend-Lease Administrator, I took part in plans to extend operations of the Ferry Command outside the Western Hemisphere. We still needed a ferrying service from the United States across the Pacific, where the threat from Japan was increasing daily. On October 3rd, 1941, the President wrote to the Secretary of War authorizing the Ferry Command "to deliver aircraft to any territory subject to the jurisdiction of the United States, the Netherlands East Indies and Australia, on behalf of any country to which I shall have authorized the delivery of defence articles under the Lend Lease Act."

Some of the airfields, hangars, repair shops and other facilities required for such a service had already been built or were under construction. The naval air bases on Midway, Wake and other mid Pacific islands that we had started to build in 1939 were nearing completion by the autumn of 1941; and in March 1941, Congress had finally appropriated funds to build a base at Guam. In addition, seaplane facilities had been built on some of the Pacific islands by Pan American, which had operated a commercial airline to the Philippines and Hong Kong since 1935 and to New Zealand since 1940. The route to Hong Kong could be used to send emergency shipments of spare plane parts and other light equipment to China, for Hong Kong and Chungking were linked by an airline operated by China National Aviation Corporation, which flew transport planes over the Japanese lines.

Shortly after the President's October 3rd directive to the Ferry Command, the first flights of Flying Fortresses were started across the Pacific for our own forces in the Philippines. There were trained ferry pilots to guide them because the Ferry Command had been organized four months before to fly Lend Lease planes for our allies. But because there had not yet been time to improve the airfield at Guam sufficiently to accommodate these large bombers, they flew south from Wake Island to Rabaul, Port Moresby or Port Darwin, where the Australians had begun expanding their airfields, and thence north to the Philippines. By

the first week in November, thirty-five Fortresses had completed the trip. In the remaining weeks prior to Pearl Harbour, a few other bombers and the Australians, th

By the middle the United States Air Ferry Command was barred were the combat areas in Russia and the British Isles. These were opened to American planes on November 17th by the repeal of the combat zone provision of the Neutrality Act. One week later, the President authorized the Ferry Command to extend its delivery service to any other place in the world necessary to carry out the Lend-Lease programme and to use Lend-Lease funds for that purpose. It was too late to take advantage of this authorization before Pearl Harbour, but when the Japanese struck, the Ferry Command, already whipped together into an efficient organization under the command of the late Brigadier-General Robert Olds, was ready to go into instant action.

#### CHAPTER XIV

### PEARL HARBOUR AND THE UNITED NATIONS

At daybreak on December 7th, 1941, the Philippine Clipper took off from Wake Island for Guam, on its way to Manila and Hong Kong. In her cargo, the big flying-boat carried a large consignment of Lend-Lease spare parts anxiously awaited by General Chennault and his Flying Tigers, who were nearly ready to go into action.

The Clipper had been in the air only a short time when orders were flashed over her radio to turn back.

The long-threatened Axis attack upon the United States had begun. Japanese planes had struck without warning at Pearl Harbour. Attacks on Midway, Wake and Guam—America's lifeline to the Philippines—would probably follow.

Back at Wake, when the Clipper landed, the 400 marines were preparing to make their heroic sixteen-day stand against the Japanese. The first attack came before the Clipper could get

before the Japanese attacked again. To make room for



weapons from that arsenal so that they can put them to most effective use. Too much is at stake in this greatest of all wars for us to neglect peoples who are or may be attacked by our common enemies.

Once again we met Axis attempts to divide and destroy us by uniting our strength.

On New Year's Day, 1942, we served on the Axis a further notice of our unity—the Declaration by United Nations. President Roosevelt, Prime Minister Churchill, Ambassador Litvinov and Foreign Minister Soong signed the Declaration for their governments, and on the following day the representatives in Washington of twenty-two other governments—each of the British Dominions and India, the governments in exile, and those American Republics that had declared war—added their signatures.

The United Nations subscribed to the purposes and principles of the Atlantic Charter. Then they pledged themselves to devote their resources, in co-operation with one another, to the winning of the war, "being convinced that complete victory over their enemies is essential to defend life, liberty, independence and religious freedom and to preserve human rights and justice in their own lands as well as in other lands and that they are now engaged in a common struggle against savage and brutal forces seeking to subjugate the world." It was a pledge that carried one step further the principles of mutual aid and interdependence inherent in the Lend Lease Act.

The conferences in which the President and the Prime Minister were engaged during these December and January days were aimed at carrying out this principle of united action. The United States would not concentrate all its efforts on the Pacific, cutting down on effective aid to Britain and Russia and thus giving Hitler just the advantage he sought in the West. Instead, while not neglecting the Pacific, we would increase the pressure on the Nazis—first with more Lend Lease supplies for Russia, Britain and its allies, then with American land and air forces as well.

It would have been impossible to carry out this strategy effectively if the United States had been as unprepared at the time of Pearl Harbor as we were at the beginning of every other war we have fought. On December 7th, 1941, we were still very short of what would be needed for victory, but for the first time in our history much of our fighting strength was already mobilized when war began.

The cash-on-the-line orders of our allies, beginning in 1938 and totalling more than 4,000 million dollars before Lend Lease, began the expansion of our capacity to produce planes and guns at a time when an American munitions industry was, in effect,

\*non-existent. Then, our own defence programme got under way in May 1940. Finally, there was the Lend Lease programme, which gave an additional boost to American war production before Pearl Harbour, while at the same time it helped to sustain the nations now our allies, while we strengthened our own defences.

It is true that there were not enough arms to go round when Japan struck. In spite of the fact that more than 85 per cent of the arms produced in this country from the beginning of Lend Lease to Pearl Harbour had been used to arm our own forces, we were forced to remain on the defensive for many months. The arms we had exported after March 11th, 1941—still largely cash purchases—had strengthened our allies, and they had held. But they too needed time and additional aid from us before the United Nations could take to the offensive.

Our preparedness was not so much in terms of arms already on the battle-fronts as in terms of mobilized military potential at home. War plants were already built, arms were flowing from the production lines, shipyards were humming, our Army was growing rapidly. In December 1941, we produced over 900 tanks, in December 1939, we had produced none. In 1939, we had turned out a few more than 2,100 military planes. In 1941 we produced 19,500. Our active Army had increased from 174,000 enlisted men on July 1st, 1939, to more than a million and a half by December 7th, 1941.

And these were merely the first fruits of our preparation. In 1942, our production and the size of our armed forces increased manifold. If we had been caught without the mobilization of our resources that we achieved through the foreign cash orders, our own defence programme and through Lend Lease, it would have been utterly impossible even to attempt the 1942 Victory Programme announced in the President's annual message on January 6th, 1942—60,000 planes, 45,000 tanks, 20,000 anti aircraft guns, and 8,000,000 tons of merchant ships. It would have taken us a year longer to stop the advances of our enemies and take to the offensive. And by that time they might have become impregnable.

In December 1941, we had the machinery set up for ultimate victory. Nevertheless, the rapid spread of the fighting all across the vast spaces of the Pacific posed immediate and serious supply problems for us. Our own forces had to have more arms as fast as

Besides arms, there were problems involving factory equipment

and India to assign the munitions produced by those countries. From whatever source munitions may come, the decision as to where they are to go and who is to use them is made entirely on the basis of strategic needs. The ability to buy with dollars or pounds plays no part.

The combined Raw Materials Board and Combined Shipping Adjustment Board were created at the same time as the Munitions Assignment Board. In June 1942, the set up was extended when the President and the Prime Minister established the Combined Production and Resources Board and the Combined Food Board.

This Combined Board system has had a most important part in making possible the combined offensives of 1943. Membership on the Boards has up to now been confined to the United States and Great Britain, with the addition of Canada in some instances. But the other United Nations are fully consulted by the Boards whenever their interests are involved, and the Combined Boards, while limited in their membership and in their powers, have served to bring about a degree of over all co-ordination in the war effort of the United States and Great Britain which exceeds anything that was accomplished in previous wars of coalition.

The co-ordination of supply on a United Nations level has been made possible by the creation of similar controls on the national level. An important element, for instance, in the strategic control over the allocation of American munitions, was the decision after Pearl Harbour to transfer to the War and Navy Departments full responsibility, not only for the procurement of Lend Lease munitions but for appropriations as well. The supplemental War Department Appropriation of December 17th, 1941, included a provision authorizing Lend Lease transfer of equipment purchased from the appropriation up to a value of 2000 million dollars. This was the first of a series of authorizations in War and Navy Department appropriation bills that have now reached a total of nearly 36,000 million dollars. Similar authorizations are included in Maritime Commission appropriation bills. Thus, since Pearl Harbour, the production of all fighting equipment and cargo vessels in the United States whether they are for our own forces or our allies, has been unified from the appropriation stage through to delivery of the finished articles.

So far as Lend Lease needs are concerned, the system for allocation of American supplies of all types works something like this:

The Government of a nation eligible for Lend-Lease aid, which means a nation whose defence the President has declared vital to the defence of the United States, makes a request to this Govern

ment. It may be for tanks, armour-plate, copper wire, tools for machining shells, or evaporated milk.

Before that request is met, the United States Government must be satisfied first, that the supplies in question are necessary for the prosecution of the war, second, that they are available in sufficient volume in this country, and third, that they will be more valuable to the combined effort in the hands of the country making the request than if we kept them for our own use or sent them to some other ally. These three points are the essence of the painstaking "screening for lend-leaseability" through which every Lend Lease request must go. If the country making the request has sufficient dollars to pay for war supplies from this country, the transfer is made under what is known as "cash reimbursable Lend Lease," and payment is made on delivery. Countries which have not sufficient dollars receive the supplies now, and the settlement is postponed.

Requests for different types of supplies follow different routes. Long range munitions requests go directly to the War and Navy Departments, which plan their production programmes for fighting equipment accordingly. When they come off the production lines, they are divided up by the Munitions Assignment Board. Requests for shipping go to the War Shipping Administration. For most other supplies, the requests come first to the Lend Lease offices, and are then considered by all interested governmental agencies in relation to the total available supply and to other needs both here at home and abroad.

In addition to the combined British and American boards, various other agencies were established in the months following Pearl Harbour to develop working co-ordination in the United Nations war effort. Unified regional commands were set up in the various theatres of war in the East, and the Pacific War Council was created in March 1942 to promote unity of policy and planning on the political level among the Pacific Powers. Working co-operation in the defence of the Western Hemisphere was advanced greatly through the Inter American Defence Board, set up in March 1942. As the war has progressed, regional co-ordination on both military and economic matters has been extended to the Mediterranean, the Middle East and other theatres of the war.

This development of the machinery of United Nations collaboration has made full use of Lend Lease as a two-way street. In fact, the value of reciprocal aid provided to the United States under the Lend Lease Act was demonstrated only a few days after Pearl Harbour. The smashing blow at Hawaii caught this country without enough barrage balloons for the protection of the West

Coast and without enough anti aircraft guns for our coastal cities. A year before the British had given us working models and manufacturing specifications for the Bofors 40-mm anti aircraft gun, which our Army found superior to the type we had been manufacturing and made standard equipment for United States forces. However, the Bofors guns had not begun to come off the production lines in this country at the time of Pearl Harbour, and the British sent us anti aircraft guns to reinforce our Panama Canal defences and to supplement the air raid defences of continental United States. They also rushed for use on our West Coast several thousand barrage balloons, some of which had been flying over English cities.

To help us fight the Nazi U-boat campaign off our Atlantic coast, the British, although they were hard pressed themselves, turned over to us more than a score of corvettes and trawlers.

We christened these first acts of reciprocal aid "Reverse Lend-Lease," and the amount of such aid we have since received from our allies has grown to very large proportions. Reverse Lend-Lease, however, is only one of several benefits received by the United States under the Lend Lease Act. All these benefits are set forth in the Master Lend Lease Agreements with our principal allies the first of which—with the United Kingdom—was signed on February 23rd, 1942, eleven weeks after Pearl Harbour.

For the prosecution of the war the United States agrees, in the Lend Lease Agreements, to continue to supply Lend Lease aid as authorized by the President. The other governments agree "to continue to contribute to the defence of the United States" and to supply us with Reverse Lend Lease aid.

The contribution which Britain, the Soviet Union, China and the others make to the "defence of the United States" by fighting the Axis is, of course, the most important war benefit we receive in return for our Lend Lease aid. As I reported to the Congress on January 25th, 1943: "This is a benefit which cannot be measured in figures. There is no standard of values by which the loss of a thousand Russian lives, for instance, can be compared with a thousand fighter planes. Those who have died fighting in Britain, in China and in Russia, in Africa and in Asia, died in defence of their own countries. But these peoples have fought, and they fight now against enemies that are ours as well as theirs. Their sacrifices are saving American lives. China's five-year struggle against Japan, the terrible toll taken of the Nazis by the Red Army, the defence of Britain and the destruction of German production centres by England's R.A.F., and the protection of vital sea lanes by the British Navy—all have combined to save the

United States from invasion, to preserve to us the means of victory and to speed its coming "

The Lend Lease Agreements also provide for the return after the war of such equipment, not destroyed or lost, as the President decides will be useful to us. Thus, ships, planes, tanks and machinery that we have lend leased will be returned after the war if it is in our interest to have them back.

The exact terms of the final Lend Lease settlement, however, are left, by the Agreements, to be determined after the "progress of events" has made clearer how they can best be worked out in the mutual interests of this country and our allies. But the Agreements do provide that the final settlement shall be directed toward the "attainment of all the economic objectives" of the Atlantic Charter.

These are the principal provisions of the Mutual Aid Agreements, which have been concluded in identical terms with Great Britain, China, the Soviet Union and others of the United Nations. Special agreements have been concluded also with almost all of the countries of Latin America.

These Agreements, and the operations carried out under them, have formed a hard core of United Nations collaboration in the war and may well provide the basis for an enduring peace.

## PART IV

# THE UNITED NATIONS

### CHAPTER XV

#### LEND-LEASE ON THE ROADS TO TOKYO—I

ONE day in April 1942, a letter arrived at my office stamped RETURN TO SENDER—SERVICES SUSPENDED. It was a letter I had sent early in February to Batavia, Java, the capital of the Netherlands East Indies. I had written to assure Lieutenant Governor General Van Mook, who had just started back from Washington, that the United States was bending every effort to send more aid for the defence of the Indies. The unopened letter was a painful reminder that we had not been in time. It had been possible to make a stand only farther to the south and east—in Australia and New Zealand.

By April, the dark flood of Japanese conquest had spread over vast areas. In the Pacific it had spilled over as far as Wake and the Gilbert Islands—a third of the way to the United States. It had swept down over New Britain, New Guinea and the Solomons to the coasts of northern Australia. It had engulfed the Philippines, Malaya, Singapore and the Netherlands Indies, leaving behind only an isolated island of heroic resistance on Corregidor. It had split the fight against Japan into two separated theatres—the Pacific theatre and the India-China theatre. To the west it had swept over Burma almost to the borders of India and blocked the road to China. Only Australia and New Zealand, China and India

and Pearl Harbour

had been sunk

by the Japanese

forces had begun the invasion of the Philippines and Malaya. Most of the American Air Force in the Philippines and the R.A.F. in Malaya were knocked out in the first few days. With the Philippines isolated, the Asiatic squadron of our Pacific fleet—a few cruisers, destroyers and submarines—was forced to withdraw to bases in Java, where it joined the small Netherlands Indies fleet.

This naval force, wholly unequal to the Japanese forces opposing it, without a single airplane carrier or battleship, prepared to

attempt the defence of the sea approaches to the Indies. After the loss of the Manila airfields, the few remaining Flying Fortresses also moved south from the Philippines to join the Dutch Air Force. The Japanese meanwhile pushed rapidly down Malaya towards Singapore, a naval base that was now without a navy and vulnerable to attack by air and land.

American and British sea power—the keystone of our Pacific strategy—had been neutralized at the start, and neither in the Netherlands Indies nor in Australia were there air and ground forces adequate to the task that was now ahead.

For the defence of the Indies, the Dutch had ordered \$200,000,000 worth of arms and other supplies in the United States between the fall of France and December 7th, but because of the even more pressing needs of American rearmament and of the fronts against Hitler, only a fraction of this had come off the production lines and started for the Indies. The situation was such that in August 1941, when the Dutch made an urgent request for 25 million rounds of small arms ammunition for the Indies, the Army had been able to release only 7 million rounds, and even that was at the expense of reserves for the troops we had just sent to Iceland.

Before Pearl Harbour, Australia's forces had been equipped almost entirely from the arsenals of the British Commonwealth, and the only important Lend Lease shipments to Australia had been fifty Lockheed Hudson bombers without motors, a few light tanks, and several hundred lorries. Australia's best divisions were well equipped, but they were fighting beside the British thousands of miles away in Egypt and Libya to keep Rommel from breaking through to the Indian Ocean.

The blows struck by Japan placed the Indies, Australia and New Zealand in direct danger. It was urgent to get reinforcements and supplies to them with all possible speed. But, as President Roosevelt wrote to J. Van der Broek, Chairman of the Netherlands Purchasing Commission, a week after Pearl Harbour: "I know you realize that we have undertaken to supply sinews of war to all the ABCD countries resisting Axis aggression out of a present supply which is greatly inadequate for all needs. The problem is difficult."

The problem was indeed "difficult", the needs that had to be met were many. After Pearl Harbour, the first necessities in the Pacific were to strengthen the defences of Alaska, the West Coast and the Panama Canal, to keep the Japanese out of Midway, and to restore our air power and damaged military installations on Hawaii while our warships were being repaired. The next essential was to build up a new air and sea supply line across the Pacific.



Between December 7th and the time Java was lost, \$60 000 000 worth of supplies had been shipped to the Indies, but much of this was still on the high seas. Light tanks, planes and other equipment worth about \$25 000 000 were on their way across the Pacific and other shipments were on the way across the Atlantic and round Africa. The ships sailing eastwards were ordered to make for Indian ports. Those in the Pacific changed course and delivered their cargoes to Australia, the next point on the time table of Japan's advance southwards.

On March 2nd 1942, while the invasion of Java was under way, four Lend Lease representatives reported in San Francisco to go to Australia and New Zealand. Since regular means of communication had not yet been re-established, each used a different means to get there. William S. Wasserman went in a Navy flying boat, Alden Smith aboard an unescorted Dutch merchantman and Charles Denby in an Army B 26 medium bomber. John O'Boyle sailed with the first large contingent of United States troops in a fast convoy that included the great passenger liner *Queen Elizabeth*, sent by the British to our Pacific Coast and turned over for the use of our troops as Reverse Lend Lease.

From Denby, after his return, I got a vivid picture of the reasons why ferrying plane reinforcements across the Pacific was practically impossible in the weeks immediately following Pearl Harbour. The bomber in which he flew was one of fifty six making the first regular ferry trips of United States Army land based planes from the Pacific Coast to Australia since Pearl Harbour. Some B 25 medium bombers intended originally for the Dutch in Java were taken out about the same time by civilian ferry pilots. Even when Denby left aboard one of the first four of the Army planes, the new island air bases along the ferry route were far from completion. Many of the runways were unfinished, and no radio direction finders had yet been installed. It required skilled navigation to find the pin point islands in the vast expanses of the Pacific. Six of the fifty six bombers were lost on the way, and others were delayed by crack ups on the half finished island airdromes.

The situation of Australia and New Zealand was now critical. Port Moresby, the last Australian stronghold in New Guinea, and Port Darwin in northern Australia were taking a heavy pounding from Japanese bombers. The Australians were preparing for the possibility that they might have to abandon all northern Australia to the enemy. Their Air Force, reinforced by Americans, was fighting back, but was heavily outnumbered. In this crisis, several

naval reinforcements had now reached the South Pacific and were operating from bases in Australia, New Zealand and the nearby islands that had been developed during the preceding weeks. And in April, Lend-Lease munitions began arriving in considerably larger quantities. Now a fight could be made to keep the Japs out of Australia entirely.

It was never necessary to fight on the soil of Australia itself. The tide was turned by the United States Navy, assisted by Australian warships, in the Battle of the Coral Sea, May 4th to 8th, 1942, when a great Japanese convoy apparently headed either for New Caledonia or Australia was soundly whipped and turned back by a combination of sea and air power. The immediate danger of an invasion of Australia was dispelled. Our victory at Midway a month later made the Hawaiian end of the supply line from the United States firmly secure.

Once the threat of immediate invasion had passed, American, Australian and New Zealand efforts could be turned to building up the two countries as major bases for offensive action under the command of General MacArthur and Admiral Halsey. In this combined programme, Lend Lease and Reverse Lend Lease have played an important role.

With the arrival in Melbourne of United States Army supply officers and the Lend-Lease mission in March, an Allied Supply Council was established under the chairmanship of J. A. Beasley, the Australian Minister of Supply and Development, with members drawn from the Australian Government, the United States Army and Lend-Lease. The harbours were then still crowded with ships originally bound for the Philippines, Hong Kong, the Netherlands Indies, Singapore or Rangoon. Many of them had not yet been unloaded. It was essential to put both ships and cargoes to work at once, and the "refugee cargoes" were redistributed, with the agreement of the Governments concerned, among the United States and allied forces, including the few Dutch units that had escaped from the Indies.

The purpose of the Allied Supply Council was to establish a unified plan of procurement for the United Nations forces operating in the South-west Pacific, to increase local production, and to pass on major economic policies for that area in the light of war needs. The plan for this Council had first been proposed to me by the Australian representatives in Washington back in January. The job of co-ordination which it undertook was an important one.

Australian factories for the American Army Twenty months ago Australia and New Zealand were producing large quantities of grains and meats but only small quantities of fresh vegetables. Twenty months ago their canning and processing facilities were very limited. Since then Lend Lease shipments of small amounts of agricultural machinery, canning equipment and tin plate, combined with an intensive effort by Australia and New Zealand have made possible substantial increases in the production of vegetables and in the processing of foods of all kinds for the American forces. The result is that we have saved hundreds of thousands of tons of shipping, in addition to many millions of dollars.

Besides fighting equipment and food, Australia and New Zealand are manufacturing uniform equipment for American forces in hundred thousand lots, army boots, overcoats, shirts, trousers, socks, underwear, tropical helmets are but a few of them. All these too, are provided as Reverse Lend-Lease, without cost to the United States.

Most of the thousands of planes that are flying against Japan in the South and South west Pacific offensives today are made of course, in America. But long before these planes had begun to leave our shores in quantity, the Australians and New Zealanders had started a great airfield construction programme to meet the needs of the United States Air Forces that were to come.

As far back as the summer of 1941, the Australians improved fields at Port Moresby and Port Darwin to accommodate Flying Fortresses we were sending to the Philippines, and thirty five of them made the trip via Wake Island and Australia before Pearl Harbour. Then, in the winter of 1942, a programme was undertaken to build more than 100 airfields and air bases, with all the runways, hangars, quarters for Air Force personnel and the other facilities needed in Australia, New Zealand, and their outlying possessions. Some of the airfield equipment has had to come from the United States, and our Army engineers have participated in much of the construction work. But the Australian and New Zealand Governments have paid for all the civilian labour, the land and most of the materials used. Besides air bases, Australia and New Zealand have provided warehouses, barracks, hospitals, repair depots and other facilities for American forces.

Few of the airfields and other military installations will have post war value, and some of them have already lost much of their war time value also, as the fighting front against Japan has moved northwards from Australia. But all have been, at one time or another, essential to our combined war effort. The cost to the Australian Government of these airfields and other facilities for American forces had exceeded \$60 000,000 by June 30th, 1943,

and the cost to the New Zealand Government of facilities for our forces in the same period had passed \$20,000,000. In addition, these Governments have, of course, built a great many airfields for their own forces, using their own money. All the fields, whether for our forces or theirs, have but a single purpose—to hasten the defeat of Japan.

Besides construction of new buildings, many facilities originally built for other purposes in Australia and New Zealand have been turned over for our use as Reverse Lend Lease. Outstanding among these is a new ten storey hospital in Melbourne, originally a \$3,000,000 civic enterprise and the best in Australia, which was taken over before it was completed and adapted to military needs. It is now used entirely for American soldiers, sailors and marines.

The total cost of the Reverse Lend Lease programme to Australia and New Zealand, which together have a population only one-fifteenth as big as our own, had risen by June 30th, 1943, to just short of \$250,000,000. Our aid to them up to that date was about \$500,000,000.

Lend Lease aid for Australia and New Zealand from the United States has been of enormous importance to the fighting in the South and South west Pacific theatres. Most of the planes, tanks and military lorries for the Australians and for the Dutch units fighting with them, as well as for the American troops, have come from this country. During 1942, we shipped 1,300 tanks and over 500 planes under Lend-Lease, in addition to those sent to our own forces. In 1943 the size of our Lend Lease arms shipments has been greatly increased, but the exact figures must remain a military secret for the present. \*

Although most Lend-Lease shipments to Australia and New Zealand have consisted of military equipment, our programme has also included a wide variety of civilian goods. These include, for example, the tools and machinery needed for the successful mounting of the offensives of General MacArthur and Admiral Halsey. They include the machine tools for factories repairing Flying Fortresses and Liberators, the tin plate that goes into the cans for American Army rations, the seeds and cultivators with which food for our forces is raised, the lorries that are essential to maintain supply communications behind our lines. There are literally hundreds of such items. All have a war purpose. Otherwise they would not be sent under Lend Lease.

Sometimes, however, the need for some things is not as plain at first glance as the need for the tools, the tin plate, the seeds and the lorries. I remember once coming across a requisition for "Black Twist Tobacco" that I felt should not be approved. Why should we send that to Australia? I investigated and found it was

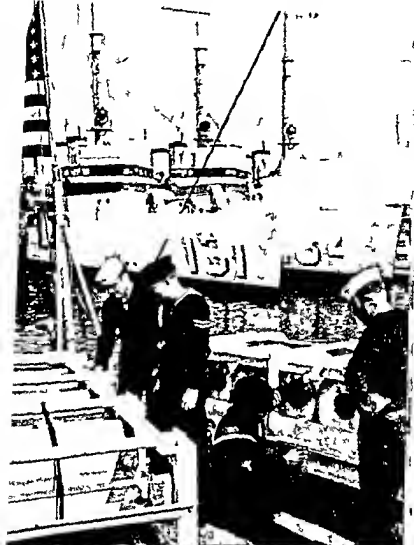
Lease, and in the second half of that year shipments more than doubled. Most Lend Lease supplies had to make the long two months trip round Africa by ship. But bombers could be flight delivered all the way over the new extensions of the Trans African ferry route.

Beginning late in February 1942, the Army Air Corps dispatched to India some of our own bombardment and pursuit squadrons to reinforce the R A F. By April 2nd, the first arrivals were established with their ground crews at bases provided by the British. On that day, the Japanese in the Andaman Islands received an unpleasant surprise when American planes suddenly appeared in the skies overhead and rained bombs on the enemy ships concentrating there. But the Americans and R A F were far too few to stop the Japanese task force which in the next few days swept across the Bay of Bengal towards Ceylon, sank three British warships, and smashed a large convoy bound for Calcutta. Overnight the Bay of Bengal was closed to allied shipping. It would be months before any ships at all would put into Calcutta again. And then for a long time the Admiralty would permit only a small number of over age ships to run the gauntlet. This was a serious blow to efforts to reinforce India. Over half of India's pre war imports had come through her east coast ports—two fifths through Calcutta alone.

The whole burden of supplying India's and China's needs now fell on the ports of western India. Into these ports already had fled many of the coastal vessels that escaped from Singapore and the East Indies before they fell to the Japanese. Into them had come the ocean going ships sailing round Africa with the cargoes for Burma, Singapore and the East Indies that were too late. As in Australian ports, refugee ships filled the harbours, and distress cargoes were piled high on the wharves and in the warehouses. Now supplies which would normally have gone to Calcutta poured in also.

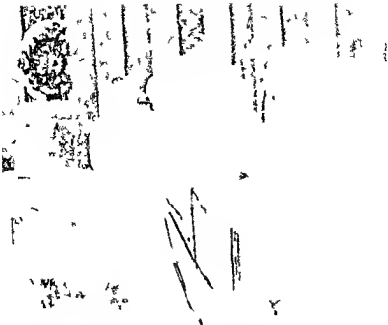
The only three west coast ports of any size—Bombay, Karachi and Cochin—were quickly jammed. Every available harbour and open roadstead, however small, had to be called into use. Docks, cranes, lighters, storage depots and railway spurs operated at peak capacity, and makeshifts of all kinds were quickly improvised. But still the goods piled up. An American Economic Mission under Henry F. Grady, sent out in April 1942 to survey the situation in India, reported that at one time 200 ships were waiting in Bombay harbour alone to unload their cargoes or to be repaired. Some had been waiting to unload for as long as six weeks.

During the succeeding months we sent to India cranes, lighters



OW 1

1 American sailors show British sailors how depth charges are fired from one of the fifty over-age destroyers turned over to the British in September 1940



2 We shall send you in ever increasing numbers ships, tanks and guns President Roosevelt asks Congress on January 6 1941 for legislation to implement Lend Lease

185





OIVI

4 British troops in American built General Grant tanks  
prepare to move into battle on the Egyptian front

5 Lend Lease American homes served to war workers at  
a miracle in Liverpool *It's Information Service*

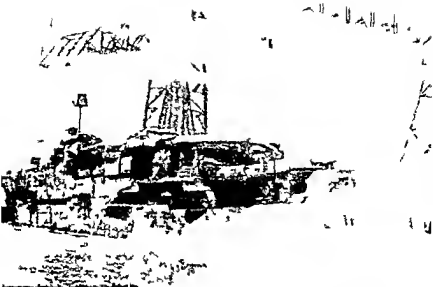




Wh c n d l u l n f v p p n o  
 Ch h Bu R d h u u o

A p l R d n





Wide World

- 8 The battered British aircraft carrier *Furious* is repaired under Lend Lease at the Philadelphia Navy Yard

- 9 The signing of the Moscow Protocol October 1 1941

Tass





U.S. ARMY CORPS

12 General George C. Marshall, United States Army Chief of Staff, and Richard Casey, then Australian Minister in Washington, discuss provision of military supplies for Australia in March 1943.

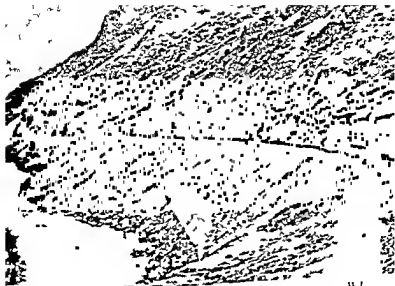
13 An Australian tank crew arrive to Lend Lease Grant tank sent for the defence of Australia.

(1)

*War Shipping Administration*

- 18 The Maritime Commission builds Liberty Ships for Lend Lease The Liberty Ship *Chun & Cheng* on the day she was transferred for operation under the Chinese flag
- 19 A Chinese soldier guards P-40 planes of General Chen nault's Flying Tigers

*Armed*



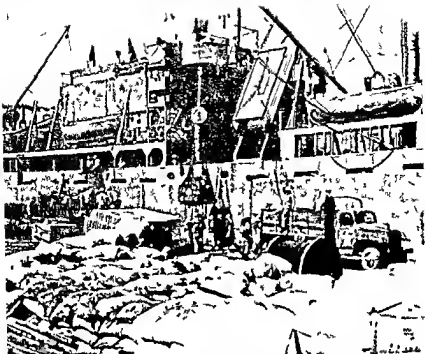
20 A section of the Trans Iranian Railway over which Lend Lease goods travel to Russia

W1

21 The Army delivers the goods U.S. Army officers talk with an American engineer on the Trans Iranian Railway carrying Lend Lease supplies to the U.S.S.R.

OW1





- 26 Lend Lease supplies, requested by General Eisenhower, are unloaded in North Africa to support the areas in the rear of the fighting front

OWI

- 27 An American General Sherman tank is hoisted aboard a United Nations freighter bound for Suez

OWI



Free Press Photo

- 28 On March 11, 1943, President Roosevelt signs the bill extending Lend Lease for another year.
- 29 Soviet Ambassador Litvinov, Vice President Wallace, Mr. Stettinius and Chinese Foreign Minister Soong at a luncheon given on the second anniversary of the signing of the Lend Lease Act. The menu consisted entirely of dehydrated foods such as a dehydrated bread under Lend Lease.





Copyright. Reprinted by permission of "The New Yorker"

and other equipment to help break the log jam in India's west coast ports. The United States Army rushed engineers and port battalions to supervise operations at the farthest west of these ports—Karachi. War supplies were piled high on all sides—arms for China and India, Red Cross supplies, planes, spare parts, fuel, lorries for the Burma Road, and lorries for our own air forces in India. The port quickly became so congested that there was danger of a complete breakdown. The port battalions, the quartermaster battalions, and the engineers of the Army Service Forces arrived when the congestion was at its worst.

Once a sleepy city of low stucco buildings—more Near Eastern than Indian in appearance—Karachi now swarmed with American soldiers and with merchant seamen from every quarter of the globe. American equipment to expand the capacity of the port began to arrive. The soldiers were told they had a job to do, and under the command of Brigadier General Raymond A. Wheeler they did it. Vessels stood in nests three or four deep at the piers while cranes swung overhead and dock hands swarmed busily over them. Soon cargo was again moving through with efficiency and dispatch. There are still large quantities of war supplies of every description on the docks and in the warehouses, but the chaos of the early days had been licked.

Present day Karachi, however, is more than a thriving port. It is a United Nations air base as well. When the double threat from Japan on the east and from Rommel on the west was at its height, Karachi's airport, then the largest in all India, was taken over by the R.A.F. and the United States Army Air Corps. Both British and American air force units were stationed there ready to move in any direction.

The disappearance of the threat did not mean the decline of Karachi as an air centre. It became important as a connecting link between India and the Trans African ferry route from the United States. Karachi itself has become an assembly point for airplanes sent by ship from Britain and the United States. From its airfields fly combat planes for the R.A.F. and U.S.A.A.F. operating over Burma or for the Chinese and American Air Forces in China.

From Karachi to the fighting front on the Burma border it is about 1,500 miles across India. By plane the trip is a matter of hours. By rail it takes many days at best, and in the spring of 1942 it often took literally weeks. The flood of supplies coming into India did more than overload the ports. It jammed the railways too. To add to the difficulties, thousands of troops also were flowing eastwards. Almost all this traffic had to move by rail, since

India has few highways. When the port of Calcutta was closed, tons of other war supplies for export to India's allies started to move in the opposite direction and made operation of the single-tracked sections of the lines a railwayman's nightmare.

India faced the railway crisis, like the shipping crisis, with a severe handicap. She had sent to the Middle East many of her locomotives and railway cars, and she could not replace these herself, for most of her own railway shops had been converted to war production. Some of this equipment would have to come from the United States if India's railways were to do the job. This lend leasing of railway equipment to India is a good example of what we mean by the use of United Nations resources in accordance with the changing needs of an over all strategy. First, India sent its railway equipment to meet the Middle East crisis. Then when India in turn became a battle front and a vital link in our conveyor belt for war supplies in Asia, this equipment was replaced from the United States.

The problem of getting munitions into India has been so pressing that it is easy to forget that India is more than a military base and a supply base for China. She is also one of the arsenals of the United Nations. The conclusions in the report of the Grady Mission tell the whole story in a few words. "The Mission believes that India is of great strategic importance to the cause of the United Nations. In its opinion this is because India can be utilized as a base for an offensive against the Japanese in Burma, because India and Burma are essential links in the efforts of the United Nations to supply China with war materials, and, finally, because India possesses great natural resources which must not only be kept from the enemy, but must also be fully developed for the benefit of the United Nations. The production of military supplies close to a military front is obviously vital."

During the critical days of early 1942, most of the Lend Lease cargoes on the ships bound for India were arms for the fighting lines. But even in those days, the emphasis was not entirely on finished weapons. We had to think of India's arsenals also. On the last day of December 1941, I had asked William Knudsen of OPM and Robert Patterson, the Under Secretary of War, to release materials for a nitric acid plant badly needed in India to increase the output of TNT. The same request had been made in August before Pearl Harbour, and it had been turned down. Now the production of explosives in India was a very different matter. The project was approved in three days.

As India's defences became stronger and the crisis eased, our attention turned more and more to aid of this sort. India's industries were being called upon to supplement the munitions we

and the British were sending, and India was already far more of an industrial nation than most Americans realized. In the triangle of heavy industry lying 150 to 200 miles to the west and north-west of Calcutta, she had arsenals that started turning out ordnance as heavy as 13 inch mortars and 32 pounder long guns almost a hundred years ago. Here also was the largest steel mill in the British Empire, the great Tata works, owned and operated by Indians. Near by, at Asansol, was the big mill of the Steel Corporation of Bengal, completed in 1939. India's arsenals were already turning out great quantities of high explosives, small arms and ammunition, converted railway shops were producing armoured cars and gun mounts, small shops all over India had been converted to war production. Her shipyards were turning out invasion boats, mine-sweepers and lighters. And her cotton mills could make the light weight uniform cloth that our own soldiers needed for India's blazing hot climate.

The man power, many of the raw materials, and the factories were already in India. By shipping from this country special types of machine tools and a few supplementary raw materials, production could be increased greatly. Of the 300 million dollars' worth of Lend Lease goods shipped to India up to June 30th, 1943, one-fifth has been machinery, tools and metals for India's war production. So important has India's arms industry become to the United Nations that she now has her own Munitions Assignment Committee, on which American Army officers have a place, to split up her war output among the Indian, British, American and Chinese armies, just as the war production here or in Britain is divided.

As this Lend Lease industrial programme for India grew to large proportions, I felt that we should have a permanent mission on the spot to see for themselves what the Indians needed and follow up on the actual use of the goods we were sending. Frederic W. Ecker was appointed to head such a mission for us. When he arrived at New Delhi, the capital of India, in March 1943, he found that the Axis had been hard at work on a new propaganda line for the Indian people. Lend Lease, the Japanese were saying, was just another disguise for the same old American imperialism. It was "Dollar Diplomacy," they said, under a fancy new name.

We have had plenty of experience with that sort of thing. For over two years now, the Axis broadcasters have been telling Britain that Lend Lease is a slick Yankee trick by which we are going to take over all Britain's foreign trade. At the same time, they tell us that Lend Lease is a subtle British plot to bankrupt the United States and take over all our foreign trade. Now the Axis was applying the divide-and-conquer technique to India.

The Indian Press immediately asked Ecker for a statement on

**Lend-Lease and India** He consulted Ambassador William Phillips chief of our diplomatic mission in India, and they met the issue head-on with a statement pointing out that Lend Lease "is not, as the Axis broadcasts would have one believe, a means of selfish advancement of national or commercial interests," but, on the contrary, "is a war measure" pure and simple. Lend Lease for India had a single purpose—to help protect her from Axis aggression and enable her to make the "most effective contribution to the common effort."

As the number of American troops stationed in India has increased, India has responded with a broadening programme of Reverse Lend-Lease. While this programme has not been as extensive as in the United Kingdom, Australia and New Zealand, India spent over \$50,000,000 up to June 30th, 1943, for our forces. Of this, \$30,000,000 was spent to construct facilities—hangars, barracks, mess halls, and all the other installations it takes to make Army camps or airfields. The stores we have received include oil, petrol, clothing and food. Railway charges, ships' repairs and other services for our forces are paid for under Reverse Lend-Lease. The aid we are receiving takes many forms—from outfitting our soldiers with hot-weather uniforms to giving us a building in which to bottle soft drinks for our Army post exchanges.

## CHAPTER XVII

### LEND LEASE ON THE ROADS TO TOKYO—III

ON the plains of the Punjab in the north-western corner of India lies the ancient city of Lahore. Inside its high brick walls are the monuments and ruins of a turbulent history which stretches back to the sudden sweep of Alexander the Great into the Punjab twenty-three centuries ago. Today, through the narrow streets of Lahore walk Moslems, Hindus, Sikhs, Christians—a complex mixture of the races and religions which have made this history. In the skies over their heads are the makings of a great new story—the planes of pilots preparing for battle against Japan.

The Air Training School at Lahore is only a few miles outside the city. It is located on an old civil airport now devoted entirely to the training of military pilots. The British have built new hangars there as well as new dormitories and mess-halls. The planes on the field are Lend Lease trainers assembled by the British at an R.A.F. station near by. The spare parts for the planes and much of the ground equipment also came from the United States, but petrol and oil are supplied by the British from oilfields and

refineries in the Middle East. The food for the cadets, and their clothing, their medical care and their travelling expenses are provided by Britain.

The Lahore Air Training School is a product of the United Nations. We and the British have pooled equipment and facilities to set up a complete air school in the north-west corner of India. But the instructors at the school and the cadets preparing to fight the Japanese are neither American nor British. They are Chinese.

The real headquarters of the Air School at Lahore are thousands of miles away inside China. It is there that candidates for the Chinese Air Force come to be examined and selected for training. But little training goes on in China itself. It is far more difficult to get the planes, the fuel, the spare parts and the airport equipment into China than to send the cadets out to meet them. One such meeting place is at Lahore in the Punjab.

Another meeting place is at Thunderbird Field, Arizona. Chinese pilots come there under Lend Lease for more advanced training by American officers. At Thunderbird Field and at other Air Force schools in the United States they are taught to fly bombers and pursuit planes, and even to become instructors. Some graduates have already returned to China to fight, others have gone to Lahore to instruct. Recently we have begun also to train in the United States complex bomber crews for long-range missions that will one day reach Japan. When overland supply routes to China are opened so that spares, petrol and ground equipment can be sent in the quantities needed for a large Chinese Air Force, the pilots and the crews will be ready.

In another part of India is an army camp where Chinese soldiers are being equipped and trained by American Army officers to use the latest American weapons. Among them are soldiers who retreated into India from Burma with General Stilwell. Others have been flown out of China. The camps they use, their uniforms and their food have been provided by the British. We are supplying them under Lend Lease with their fighting equipment—everything from jeeps to field artillery. Again, it has been far easier to send the men to their weapons than it is to bring the weapons in to the men. These Chinese troops, organized into stream-lined triangular divisions, will carry their American weapons back into China with them when they go into action.

In July 1937, Japan closed the ports and supply routes of China one by one—Shanghai and the Yangtze, Canton, Haiphong and French Indo-China.

When the Japanese soldiers started pouring in to "protect" Indo-China late in 1940, over a year before Pearl Harbour, the Chinese Government began to think ahead to the possibility that the Burma Road, too, might be cut. An alternative route from Sikkim Province down through the eastern Himalayas to Sadiya in the north-east corner of India was selected and a survey started. During the summer of 1941, Chinese officials began to talk with officials of the Division of Defence Aid Reports about the equipment which would be needed to do the job. The surveys had not progressed far enough for the submission of an actual list of equipment, but it was already apparent that to build the road would be a tremendous undertaking. The country was even more wild and mountainous than the Burma Road country. The work could not be undertaken without quantities of heavy road building machinery, and even with this it would probably have taken at least two or three years to push a road through.

When the Japanese moved into Thailand immediately after Pearl Harbour, the Chinese rushed work on their survey. On January 7th, 1942, China Defence Supplies submitted a Lend-Lease requisition for two million dollars worth of "urgent" equipment. I talked the project over with Lauchlin Currie, and together we wired General Magruder, head of the American Military Mission to China, for his advice. Magruder answered that he approved the project. But before the War Department could secure the equipment, the Burma Road was cut, and all hope of getting it into China vanished.

The only remaining routes to China were the old North west Highway across Sinkiang Province from Russia and the caravan trails across the Himalayas and through Tibet from India. These were not promising prospects. To reach the borders of Sinkiang, American and British supplies would have to move through crowded Russian ports and then thousands of miles over the overburdened Russian railways. From there it was thousands of miles more across the deserts and plains of Central Asia to the front. The caravan trails through Tibet were much shorter. But only pack-animals could negotiate the trails over the high mountain passes, and each caravan would require six months to make the trip.

There were no practicable land routes left. Goods for China began to pile up in India—Lend Lease goods, supplies bought out of the pocket, and so on. When he did was to prepare and send back to us an inventory of all these goods in India. Heading the list were hundreds of knocked-down lorries, tyres and tubes, drums of oil and grease, and thousands of boxes

of lorry spare parts. Next on the list were airplane spare parts, repair tools and propeller assemblies. There were bombs and anti-tank mines, hundreds of thousands of shells, and sticks of dynamite, tons of powder and TNT. The list went on—hundreds of boxes of medical supplies, of army signal equipment, of quartermaster's stores. There were steel rails, railway sleepers, and the other equipment needed to build a railway; neat rows of copper ingots, brass rods, zinc slabs and many types of steel, together with drills, foundry equipment, electric furnace equipment and the other raw materials and tools that China's arsenals need so badly.

From time to time, when the needs are pressing, some of the goods from these stock piles have been released for the needs of the United States Army in India, and have proved of great value to our own forces. But most of these supplies are reserved for China.

In comparison with the enormous streams of raw materials flowing to the arsenals of the other United Nations and the streams of munitions flowing to the other battle-fronts, the stock piles in India are small indeed. But they include about half of all the Lend-Lease supplies shipped up to now from the United States for China, and they are an important part of our present effort to supply China. So little can be delivered inside China that her war economy is operating on slim reserves. When she needs something, she needs it in a hurry. The war in China cannot wait while we send half way round the world for it. That is one reason why supplies have been stock-piled in India ready to go.

There is another important reason for the stock piles. The roads to China will not always be closed. One of our first military objectives in Asia is to reopen them. When that has been accomplished, we do not want China to wait while goods are manufactured in the United States or Great Britain, carried to port, loaded and shipped to the other side of the globe. The stores in India are insurance that goods will start to move into China in real volume the day the roads are cleared of the Japanese.

After the Burma Road was closed, supplies sent from India to China had to go in almost entirely by air. In early May 1942,

..... was the  
..... of planes  
..... that the

United States would send more. Some of these were to be operated by C.N.A.C., but most of them would be flown by the United States Army Air Transport Command. These planes would not replace the Burma Road, but they would keep flowing into China at least some of the arsenal equipment, the ordnance supplies and, above all, the petrol, the bombs and spare parts needed to keep fighting planes in the air over China.



During the summer and autumn of 1942, we watched from Washington the figures on air freight to China go up at a pace so slow it was heartbreaking. At the beginning of 1942, there were only a little over 300 transport planes in the whole United States. Our early plane production had been concentrated on bombers and pursuits and we were only just getting started on the production of transports. Now they were needed in great numbers all over the world—for the runs over the Atlantic and the Pacific, in the Middle East, and in Africa. Every theatre of war was on the waiting list for transport planes as they came off the production lines.

By the end of the year, air shipments into China were still only a pitifully small trickle. In 1943, as assignments of more transport planes to the run continued, air shipments increased substantially, although, of course, they were necessarily far less than the 60,000 tons a month that had been scheduled to go through Burma on the land routes by this time.

The pioneering and development of this route by American and Chinese pilots was one of the truly notable achievements of the war. In a country of tremendous mountains and wild valleys, of tea plantations and bamboo huts, of giant hardwood trees and thick green jungles, we and the British built airfields under the most difficult conditions. Workers were drenched by the rains during the monsoon, enervated by the heat in the other seasons, and plagued constantly by malarial mosquitoes, dysentery and countless jungle leeches.

It was over some of the worst country in the world and through some of the worst weather in the world that our supplies had to go into China. On the return trip came Chinese pilots and soldiers for training in India and the vital materials which the Chinese continued to send out for our war industries in payment for our 1940 Export-Import Bank loans.

Inside the arc of mountains and Japanese-held territory that isolates them, the Chinese have been carrying on a major war for years with few supplies from the outside world. Against the well-armed forces of the Japanese, Chinese troops have held their own with meagre equipment. The plans for arming them from the United States are being carried out partially in India, but we have not been able to get ground arms into China itself in any volume since the Burma Road was closed.

While waiting for the roads to reopen, we have not, however, forgotten our plans to assist in training Chinese armies in the use of the American type weapons that will then be coming in to them in large quantities. Increasing numbers of American Army officers have been arriving in China. Each is a specialist in

some phase of modern warfare. Since April 1943, they have been operating training centres for Chinese officers inside Chioa. There is a field artillery centre which has already graduated about 5,000 officers and an infantry centre which has graduated about 3,000 Chinese officer candidates, chosen by competitive examination, are taught radio transmission, military engineering, the use and care of American weapons, first aid and other military subjects. American officers—some of them American-Chinese—have attended these schools also, and after a short period of training have gone into the field with units of the Chinese Army to serve as instructors, advisers and observers.

The heroism of the soldiers of China is well known, but there is another manifestation of China's unbeatable spirit that is less often mentioned. That is the skill and ingenuity with which the Chinese have managed to continue turning out war goods with almost no raw materials or machinery coming in from outside. Before 1937, China's few manufacturing centres were all in the coastal provinces. Before 1937, there was no industry worthy of the name in the area that is now Free China. When the Chinese retreated up the Yangtze, they brought with them piece by piece all the machinery they could move out ahead of the Japanese. With this equipment and the supplies they were able to buy in the United States, they created new arsenals to supply their armies. In the summer of 1942, General Yu Ta Wei, China's Director of Ordnance, took Franklin Ray on a long trip through these arsenals to show what real capacity they had if only a few more materials could be sent in to them.

The most astounding thing about China's arsenals Ray told me after his return, is their location. Japanese air raids during 1940 and 1941, when China's small air force had been shot from the skies, did terrible damage to the arsenals that had been built in the open. So the Chinese moved their equipment into what are, in reality, permanent air-raid shelters dug into the sides of cliffs. The caves are deep; they stretch far back into the cliffs, with rooms, floors and partitions all carved out of the solid rock. The arsenals are now safe.

In these caves the Chinese turn out rifles, ammunition, hand grenades, mortars, anti-tank guns, machine guns and other arms. Few supplies for the arsenals are coming in from outside. When the Chinese lack a raw material or a piece of machinery, they have to improvise. Cast iron is used in place of steel. Their TNT is mixed with lower-grade explosives to stretch it out. New processes, new methods of manufacturing have to be worked out constantly. Every piece of scrap is used. Despite China's ingenuity

in the face of these difficulties, her arsenals are, of course still working well below capacity. Full production must wait until the land routes are open again.

The loss of Burma not only cut the road over which arms and arsenal materials were brought into China. It also had very serious effects on transport inside China itself. Free China has few railways. Except along the rivers, most goods must move by lorry or mule-drawn carts. Without a land route into China, we can send in neither lorries nor the petrol to run them.

The internal transport problem has been tackled with an ingenuity equal to that which the Chinese have shown in their arsenals. Lorries have been run on alcohol, on fuels made from tung oil and vegetable oils, and on gas from charcoal burners. Spare parts are improvised for the motors of the lorries to keep them going until they literally fall apart. Now there is a little petrol also, for the Chinese, with almost no modern equipment, are managing to refine some oil from the new wells of Kansu, far to the north. It is brought to the Chungking area many hundreds of miles on inflated goat-skin river rafts or in mule-drawn carts. But adequate internal transport, like an adequate supply of arms and an adequate rate of production, depends upon the re-opening of the land routes to China.

It is only in the air over China that our aid is beginning to tell. Four months after Pearl Harbour, the first American Army bombers were on their way. In the early morning hours of April 18th, 1942, the aircraft carrier *Hornet* was speeding west in the Pacific about 700 miles off the coast of Japan. On her flight deck were sixteen B 25 Mitchells. On their way they had a most important mission to perform—the bombing of Tokyo—but they were bound for China. As daylight broke that morning a small Japanese ship was discovered in the distance. Guns from an American cruiser quickly sank her. But it was feared that the ship might have radioed a alarm and the bombers took off at once, hours sooner than had been planned. They bombed Tokyo and nearby Japanese cities a few hours later, but because of the extra distance they had to travel and unexpectedly bad weather, none of the planes reached the Chinese bases in safety, though most of the men were saved.

Some of the crews from the planes that bombed Tokyo remained in China to fight. Others have been sent to join

Air Force bombers  
Chinese Air Force

The old A V G's are no more. They were disbanded on July 4th 1942. But their commander, General Chennault, remained in China to lead the United States Fourteenth Air Force now operating

from Chinese bases, and some of his men remained with him. When the A V G 's turned in their uniforms, they had hung up a remarkable record. In a little less than seven months they had definitely shot down or destroyed on the ground 297 Japanese planes, at a cost of only thirteen out of the original 100 P-40 s lost in action and an additional thirty-two lost in accidents or destroyed on the ground. When the A V G 's were disbanded, the Chinese, who had paid nearly \$9,000,000 in cash for the P-40 s, turned down an American Army offer to buy back the remaining planes, and insisted on giving them to us as Reverse Lend Lease instead. They are now a part of the Fourteenth Air Force.

The planes that we have sent to China so far have been only a start. When I talked with General Chennault in Washington in May 1943, he was looking forward to only one thing—the day when the land supply routes would be open again and planes, fuel and spares could come pouring into China as fast as we could make them and get them across the ocean.

On December 9th, 1941, two days after Pearl Harbour, Chiang Kai-shek made a pledge to the people of the United States:

"To our now common battle we offer all we are and all we have to stand with you until the Pacific and the world are freed from the curse of brute force and endless perfidy."

The Generalissimo and all China are keeping their word. It will not be long now, I hope, before we are able to fulfil all our pledges to them.

Until now, China has been fighting on the thin trickle of supplies that could be carried in by air. But American and Chinese air power inside China has been steadily increasing, and the land routes to China will not always be closed.

From Assam, American and Chinese Army engineers have struck out through the Naga Hills, building a new road towards the Japanese bases in northern Burma. It is called the Ledo Road, and it runs through country as wild and mountainous as that through which the original Burma Road was built. Ahead of the engineers and ahead of the construction crews of American white and Negro troops, of Indians and Chinese move units of the new Chinese Army that has been trained and equipped in India. They are the advance guard protecting the road builders from Japanese attack as they penetrate farther in the direction of China. Transport planes flying from the ferry bases in Assam keep them supplied by dropping food and ammunition from the air.

Behind them in India arms are flowing in from the United States and Great Britain in larger and larger volume. The east coast ports in India are open again. We are welding together a United Nations striking force of Chinese, British, Indian and American

troops that will be strong enough to do the job, wherever and whenever we may choose to attack

At the Quebec Conference in August 1943, a capable commander—Lord Louis Mountbatten—was chosen to lead this combined operation

Japan will learn the terrible power with which the United Nations can strike in this part of the world

#### CHAPTER XVIII

### SUPPLIES FOR THE SOVIET—I

IN the first two months after the Moscow Protocol was signed on October 1st, 1941, twenty-eight ships sailed from the United States, carrying a little over 130,000 tons of cargo for Russia. This was less than one-tenth of the supplies we had promised to make available for Russia in the United States in the nine months between October 1941 and June 1942. There was a long way to go in the seven months that remained

Just as the Soviet supply programme was gathering momentum, the United States was attacked at Pearl Harbour. All shipments across the Pacific on American flag vessels stopped immediately. The run from our West Coast to the Soviet Far Eastern ports could thereafter be made only by Russian ships, which were neutral so far as the Japanese were concerned, but the Soviet had few merchantmen available for the Pacific run.

Although the first ship from the United States to use the Persiao Gulf route for supplying Russia sailed in November 1941, the great projects for the expansion of ports, roads and railway facilities in Iran which had been planned that autumn were still far in the future. The only other route was across the North Atlantic and round the North Cape to Murmansk and Archangel. It was over this route—the shortest, but by far the most dangerous—that the bulk of the tonnage for Russia had to go in the first half of 1942. Over it also went most of the ships carrying the supplies which Great Britain was sending under the Protocol.

The Nazis attached high importance to stopping shipments to the Soviet. They built a series of strong bomber and fighter bases round the top of Norway. In Norway's fjords they found protected natural bases for their U-boats and surface raiders. Shipments could get through to Russia by the North Cape, only in heavily protected convoys. And this was just at a time when the British, American and Canadian Navies already had more than

to the South west  
 were heavily taxed  
 after Pearl Harbour. There was inevitable confusion and delay in the first months, as the burden of rushing American troops and their supplies overseas was suddenly superimposed on the continuing load of shipments to our allies. In the beginning, Boston had been chosen as the principal Atlantic port for shipments to Russia. But when the Army took over many of the docks, warehouses and sidings there for supplying our own forces, the strain quickly became too great.

Assignments of American vessels to the Russian run lagged far behind the original schedules because our own Army and Navy needed ships, and the Soviet Government had been able to send only a few Russian vessels to pick up cargoes at our Atlantic ports. Although we managed to increase shipments to the Soviet Union considerably in December itself, the next month they dropped off. One less ship sailed in January 1942 than in December 1941, in February, clearances were down still another five ships.

The chief bottle-necks in the weeks after Pearl Harbour were in shipping, but there were also many delays in actually getting the goods to ship to Russia. Although the December 7th Army and Navy "freeze" held up some shipments of planes and tanks for a short time, by and large the interruptions from this cause were not serious. The real difficulty was in placing orders with high enough priorities to get deliveries in time.

The Russian supply programme was late on the scene, and it had to compete with the heavy demands of our own armed forces, the immediate requirements of the war in the Pacific, and the programmes of aid that had already been put into effect for Britain, China and our other allies. The delays were especially serious in so far as they concerned the industrial equipment needed for the Soviet's own war production, which we knew in many cases would take long months to manufacture.

With the coming of winter on the Russian front the Red Army had stopped the Nazis and had even been able to take the offensive but the resistance once and for all was certain. It was vital to the strategic plans of all the United Nations that supplies in real volume reach Russia in time for the summer campaigns.

On the allocating and contracting levels, the Soviet procurement programme was proceeding very rapidly. In fact, by the end of January 1942, we had exhausted the first thousand million dollars

for aid promised to Russia, and the President, after an exchange of cablegrams with Premier Stalin, had authorized the extension of a second thousand million. But dollars and contracts were not the tanks and planes which the Russians needed. Deliveries were still short. It was evident that the emergencies following Pearl Harbour had caused serious delays in fulfilling the terms of the Moscow Protocol—a binding promise by this Government to make specific quantities of supplies available for shipment to Russia by a specific date.

On March 17th, 1942, the President acted. He directed me to submit to him definite schedules "of the availability dates of material and shipping." To Donald Nelson he wrote, "I wish that all material promised under the Protocol be released for shipment at the earliest possible date regardless of the effect of these shipments on any other part of our war programme." To Admiral Land he wrote "The meeting of the Russian Protocol must have a first priority in shipping. I wish that you would take the additional ships required from the Caribbean and South American routes regardless of all other considerations." Similar letters went to the War and Navy Departments. It was a drastic series of orders, but with all the other pressing demands on our production and our shipping, it was the only way we could possibly hope to make real progress on the Protocol shipments.

The Soviet programme began to move faster. By this time Philadelphia, which was not so overloaded as Boston, had become the major Atlantic port for shipments to Russia, and ships in greater and greater numbers were putting in there for Soviet supplies. More goods moved from the factories. Shipments in March 1942 shot up to 214,000 tons from 91,000 the month before. Forty-three ships cleared American ports for Russia, as many as had left in January and February combined. Thirty one of them, however, had to be assigned to the dangerous route round the North Cape.

In April the March tonnage was more than doubled. The greatest volume of cargo to leave this country for Russia in a single month until well over a year later cleared our ports. But sixty-two of the seventy-eight ships that carried this cargo had to go by the northern route. Large numbers of vessels also left Britain for Russia during those months with munitions given outright to the Soviet Union by the British, along with non military supplies under a long term credit arrangement. And most of these too had to go round the North Cape.

Huge convoys of British and American ships, stretching sometimes far over the horizon from the lead ship to the tail-ender, were organized at ports in Canada and in the British Isles. Since our fleet was busy in the Pacific and along our east coast, where

violent submarine warfare had broken out, the brunt of the convoy work was borne by the British and Canadian Navies. Every available escort vessel was pressed into service, and the convoys were heavily guarded. But the Nazis attacked with devastating force.

Wolf packs of U boats began the attack as the convoys steamed north-eastwards past Iceland. Sometimes strong forces of German surface raiders, including cruisers and destroyers, attacked the convoys as the ships got nearer Norway. Then came the bombers—always. Day after day they attacked. On one occasion, 350 Nazi planes roared down on a single convoy of the zigzagging ships. Forty of the planes were shot down, but they took a deadly toll of ships before they were driven off. It was a running battle all the way round the North Cape, even though the convoys kept as far north as the ice pack would allow.

Not until the vessels got within fighter plane range of Murmansk could effective air protection be provided. Then Russian pursuits appeared to drive off the Luftwaffe and to escort the surviving vessels the rest of the way in. Even Murmansk itself was subject to air attacks, however, and several times severe damage was done. There Russian stevedores, both men and women, worked day and night unloading the ships in order to get them out again as fast as possible.

The heaviest and most costly battles off the North Cape were fought between March and July of 1942. Six of the thirty one ships that sailed from this country for Murmansk in March, eighteen of the sixty two that left in April, and three of the fourteen that left in May were lost in these battles. One-fourth of all the ships we sent round the North Cape to Russia in those three months went to the bottom. British losses were similarly severe.

To the bravery of the men who ran this gauntlet the Russians have paid tribute in many ways. After one convoy battle waged by the British Navy, for example, the famous Soviet war correspondent Ilya Ehrenburg wrote in *Red Star*: "The Germans have shattered themselves against the undaunted spirit of the English. Glory to the English sailors! They are bringing tanks, bombs, shells and grain to those fighting for freedom." The Soviet Government has expressed its appreciation to American and British merchant seamen in a more tangible form as well. Last year the United States naval attaché at Murmansk reported that the Soviet authorities were banding to the captain of each merchant ship that came into port cheques on American or British banks for a month's extra pay for every member of the crew.

Counting the early convoys late in 1941, nineteen convoys of British, American and allied ships were brought into Murmansk.



Although they do not come directly under the head of munitions the boots which we have sent to Russia have made up an essential part of the Red Army's equipment. Anyone who has ever seen photographs of captured Nazi soldiers on the Russian front with frozen or gangrenous feet wrapped in bloody cloths, can understand how important good footwear is in the fighting there. The Red Army must have boots capable of withstanding the heavy snow and the extreme cold of Russian winters and the deep mud of spring and autumn. Livestock losses during the 1941 campaign resulted in a critical shortage of leather in Russia, and we sent 10 500 tons of shoe leather under the Moscow Protocol. But Russia's factories, even with this help, could not keep up with the Red Army's needs, and we sent at the same time a million and a half pairs of American made army boots. Since then our shipments have risen to four million pairs. And Great Britain has sent another three million pairs.

Besides the standard boots the Red Army asked if we could supply "Vityajnye" boots a high leather, felt lined type of Russian boot which is wonderfully water tight. Such boots had been made by hand for centuries in Russia for use in melting snow and ice, now we sought to make them in quantities by modern factory methods. It was a difficult job but we finally discovered a man in the United States who knew all about the subject. He was the former head of the Tsar's boot factory. We asked his help in making boots for the Soviet. He went to work, and a machine process for making the boots was quickly perfected. Red Army men are wearing them today.

The rôle of Lend Lease weapons in the Red Army's battles against Germany in the summer of 1942 is difficult to assess. In terms of making up certain critical deficits in Russia's stocks of war supplies such as in lorries and field telephone equipment, Lend Lease played an important part. But in the over all picture the volume of fighting equipment we sent could not have bulked large. We know that American tanks were put to good use in the defence of Stalingrad. On the whole however, we frankly have little detailed knowledge of the use to which the Russians put our weapons in that year.

In 1942, we and the Russians were just beginning to learn to work together as allies. It would be foolish to pretend that our relations with Russia were at the beginning as frank and as intimate as our relations with Britain and China. We did not ask the Soviet for the detailed information about their army and about conditions inside their country which we expect from other Lend-Lease countries. Immediate and complete pooling of information

from the start was hardly to be expected in the face of our lack of mutual confidence in the years before.

We must evaluate the intimacy of our relations with our Soviet allies I think, not by comparing them with our relations with other nations which have been on close terms with us for many decades, but rather in terms of the distance we have travelled in the little more than two-years since Germany attacked Russia. Viewed in these terms, both of us have come a long way in a very short time. We have both seen how closely our national interests are linked together.

My own dealings with the Soviet Union have been chiefly through Major-General Belyaev, Rear Admiral Akulin, Constantine Lukashev and Alexander Rostochalk of the Soviet Government Purchasing Commission. They are all young men of great energy and great ability. General Belyaev was a top notch supply officer in the Red Army Air Force, and Admiral Akulin is a veteran artilleryman and an expert in explosives. Lukashev, a former professor at the University of Leningrad, served as head of Amtorg, the first Soviet purchasing agency here. Rostochalk had studied metallurgy at the Massachusetts Institute of Technology under Dr G. B. Waterhouse, now the Lend Lease consultant on metals.

I think our experience at Lend Lease in dealing with these men has been the same as that of other American officials who have had close and frequent contact with the Russians. When a conference begins, they get right down to business and quickly show themselves to be tough minded. They are very serious in manner. Often they seem reserved at first, but give them plain, honest, hard headed talk, and they will return the favour. The longer we work together, the better we understand each other.

#### CHAPTER XIX

### SUPPLIES FOR THE SOVIET—II

To develop in Iran a major supply route for Russia has been a task of enormous dimensions.

Iran, or Persia as it used to be called, is as big as France, Germany and the British Isles all put together. There is a strip of fertile land in the north along the Caspian Sea and a few other productive spots scattered over the country where water is available, but much of Iran is barren, rocky and mountainous. The

southern coast along the Persian Gulf is one of the hottest area in the world. But the winters are cold in the north, and near Teheran the capital, mountains are snow-capped the year round.

Peasants, who live in little mud villages, make up the majority of Iran's 15 000 000 inhabitants. They do not own the land they till but work on the estates of great landlords. Away from the settled valleys many Iranians still follow the life of Asiatic nomads, herding sheep and goats, wandering between uplands and lowlands in search of pasture.

Into this setting, the deposed Shah, Reza Pahlevi, had introduced a few twentieth-century modernisms, such as the railway from the Persian Gulf to the Caspian Sea completed in 1938, an automobile highway northwards from the capital to the Caspian, a few modern government buildings in Teheran and one or two well-equipped factories. But Teheran's water supply, piped down from mountain streams, still runs in open gutters through the streets, most of the dwellings in the country are built of bricks made by hand from mud and straw. And in some districts travellers who venture on the roads without an armed escort are likely to be attacked by roving bandits.

The Russians had undertaken, after the joint Anglo-Soviet occupation in August 1941, to handle supplies north of Teheran. From there cargoes could move either by rail or lorry up to the ports on the Caspian Sea, or by lorry up to the southern railheads of the Soviet railway which ran down through the Caucasus.

The British undertook a more formidable job. They had to move goods into the Persian Gulf, unload them and get them across almost the full length of Iran to the Russian zone in the north.

When the British started to work, there was only one port of any size in the whole Persian Gulf area—Basra on the Shatt-el Arab, the river formed by the junction of the Tigris and the Euphrates. And Basra was on the wrong side of the river, in Iraq. Although it was connected by railway with Turkey, Syria and Palestine, there were only roundabout connections by desert road with Iran. Khorramshahr, on the Iranian side of the river, could scarcely be called a port at all, and the same was true of Bandar Shahpur, the southern railhead of the Iranian railway, farther east on the Persian Gulf.

The railway itself was equally inadequate. It was not equipped to handle anything beyond the lightest kind of traffic. There were only a few hundred goods waggons and nowhere near enough locomotives to haul heavy freight up the steep and sharply curving grades. The line was single tracked most of the way. It passed over hundreds of bridges, and in the stretches through the moun-

tains of central Iran funnels averaged one in every two miles. Landslides which blocked all traffic were frequent. There were a few roads running north to Teheran and the Caspian Sea from the Persian Gulf, but most of them were little better than camel or donkey tracks. And there were almost no lorries available in Iran.

Thus was the country through which it was necessary to move thousands of tanks and planes and lorries, TNT, machine tools and food for Russia's fighting forces.

One of the first steps the British took in the summer of 1941 was to secure some locomotives and rolling stock for the Iranian railway from their own railways and from India. In addition, thousands of open trucks and goods wagons and a hundred diesel locomotives were built in England on rush orders. Canada, too, undertook to build goods wagons. By November 1941, the first thousand British goods wagons had been shipped to Iran. In the meantime, the British had taken over management of the railways.

A few months the United Kingdom Commercial Corporation, a British Governmental agency, had assembled a fleet of 1,000 lorries to haul supplies northwards.

Although the volume of supplies that could be handled was still small, British goods for Russia began to flow through Iran on regular schedule before the end of 1941. Some of these were shipments of finished munitions sent from Britain, while vital raw materials came from British possessions in the Middle East and Far East. During 1941, the British made available to Russia 38,000 tons of rubber from Singapore, 8,000 tons of tin from Malaya, 13,000 tons of jute from India, and 18,000 tons of lead from Burma and Australia. Many of these raw materials were carried by Soviet vessels operating in the Pacific, but some of them went in also by way of Iran.

It had been plain from the beginning, however, that the British alone could not supply port equipment, railway equipment, road-building machinery and lorries in sufficient volume to do the job in Iran. In September and October 1941, just after the British were beginning to move the first supplies through the Persian Gulf, Lend Lease requisitions had been filed in Washington for lorries, locomotives, rolling stock and railway tracks. It was clear also that every usable harbour on the Persian Gulf would be needed, and we had started planning on port expansion projects to be carried out by American engineers.

Late in the autumn of 1941, a mission under Brigadier General Wheeler, who was later to do such valuable work in India also, arrived in Iran to take charge of the American projects. Since the

British had already taken the major responsibility for the port of Bandar Shahpur, we concentrated most of our efforts on Khorramshahr. The engineers under General Wheeler immediately set to work building new wharves, piers and jetties. They dredged out the channel to handle large freighters. They installed cranes for unloading heavy equipment. Construction of a big American lorry assembly plant was begun. An old road which ran from Khorramshahr to Ahwaz on the Trans-Iranian Railway about 60 miles away was taken over by the army engineers, who graded, filled and surfaced it with the help of gangs of native labour and made it into a first-class highway. A plant was started to build barges for floating heavy equipment up the Karoun River, which runs from Ahwaz to Khorramshahr.

At Abadan, just a short way down the Shatt-el Arab River from Khorramshahr, is a great British refinery which produces much of the aviation petrol for the allied forces in the Middle East and India. There in the spring of 1942, work was started on an assembly plant for the Douglas A-20 bombers, which the Soviet was requesting in such large numbers. And a big airfield was built for flight testing the planes before they were turned over to the Russians.

By the spring of 1942, the volume of freight carried on the Trans-Iranian Railway each month had tripled. Cars from Britain's Southern Railway and locomotives from India were rattling northwards over the rails along with Krupp engines and rolling stock that the old Shah had bought from Germany. Iranian labourers, working under British and American engineers, were laying sidings and spurs with new rails from the United States. American locomotives and rolling-stock were beginning to arrive. American Lend Lease lorries—Dodges, Fords, Studebakers and others—were swelling the British-operated lorry convoys. New roads were being constructed and old roads improved, road maintenance stations were set up, and repair shops were built along the main routes. A second lorry assembly plant was set up inland on the main road to Teheran. All through 1942 the tonnage of supplies carried through Iran to Russia increased as more and more equipment from the United States arrived, and the building of ports and roads went on furiously under General Wheeler's direction.

In March 1942, an air ferry route to Russia was opened, and the first B 25 medium bombers were flown from Miami across the South Atlantic and Africa to Iran, and from there on up into Russia. In July, some of the Douglas A-20s, specially equipped with extra petrol tanks for the long ocean hop, began to go all the way by air also. Today hundreds of Lend Lease planes are being

flown into Russia every month from this country by way of Iran and over other routes

The main burden of supplying the Soviet, which had fallen so largely on the North Cape route in the first months of the programme, had definitely shifted by June 30th, 1942—the end of the Moscow Protocol period—to the Persian Gulf, to the air-ferry service, and to the run across the Pacific from our West Coast to the Soviet Far Eastern ports

In the autumn of 1942, the United States and Great Britain signed a second Protocol with the Soviet Union at Washington, which provided for a continued programme of aid to the middle of 1943. By this time it was apparent that in spite of the development of the new routes, the major bottle-neck in aid to Russia would still be transport. As the President said in a memorandum addressed to those of us concerned with the Soviet supply programme in the summer of 1942, "The real criterion is the ability to deliver material into Russia. . . . Our position should be to say to the Russians, in effect, that we can let them have almost anything they want but they must list these items in an order of priority, and that we will fill them in the order chosen by them."

Following this line of thought, the Washington Protocol was in two parts. The first listed the maximum amounts of munitions and war supplies of all types which could be made available to the Soviet Union by the United States and Great Britain. The second part was a statement of the shipping which we believed could be furnished. The Russians could pick what they wanted to go on these ships out of the schedules of materials we had guaranteed to make available. This was a realistic approach to the problem. The basic fact was that we could produce more war supplies for Russia than we could ship. It was up to the Russians to tell us, in the light of the changing picture within the Soviet Union, what they wanted to use the shipping for.

In October 1942, it was decided that the United States Army should take over from the British the major responsibility for delivering supplies to Russia through Iran. This would relieve some of the British forces for service in India and in other parts of the Middle East.

The Persian Gulf Service Command was established under Major General Donald H. Connolly. He brought to Iran a staff of top-notch officers, each a specialist in his field. Colonel Doo G. Shingler was put in command of lorry transport, and Colonel Paul F. Yount became director of the Trans-Iranian Railway. Thousands of special service troops, both coloured and white regiments, were sent to Iraq. Meanwhile, Major-General Clarence S. Ridley became Chief of Staff of the Native Iranian Army, and

Force is painted in and the planes are turned over to Soviet ferry pilots for the long flight to the Russian front.

Cases of knocked down lorries and jeeps move into the plant at Khorramshahr where they are assembled by regular production line methods and roll out at the other end ready to move northwards. Three big lorry fleets are now operating in Iran. One is operated by the United States Army Road Transport Command, another by the United Kingdom Commercial Corporation and the third by the Soviet organization, Iransovtrans. The United States Army and British operated lorries run northwards as far as Teheran and the other transfer points on the border of the Soviet occupied zone. There they turn their cargoes over to the Russians for the rest of the journey up through northern Iran. American Lend Lease lorries intended for use by the Red Army go straight through with just a change of drivers at the border.

Many hundreds of miles of new gravel or hard surfaced high ways have been constructed. But whether you travel aboard a Chevrolet lorry on one of these roads or on the Trans Iranian Railway I am told you will still see peasant villages of mud huts, nomads in tents and merchants walking beside camel and donkey caravans that bring to mind those described by Marco Polo on his travels through Central Asia 700 years ago. Crumbling ruins of old stone castles look down on General Sherman's tanks riding to Russia on open goods wagons or on service stations plumped down beside a new road across a barren plain. On your train the driver may be a sergeant who used to work for the New York Central and your fireman a graduate of the Santa Fe or the Baltimore & Ohio. Your lorry driver may have piloted a big chain store trailer lorry in Chicago before he joined the army and came to pilot lorries in Persia.

American Army officers and men rub shoulders with Soviet soldiers at the plane assembly plants and at Teheran and the other transfer points in northern Iran. They get along very well together, and a friendly rivalry has grown up between the armed services of the two countries—the American soldiers are trying to outdo the Russians by piling up supplies at the transfer points faster than the Russians are able to take them away.

During the second Protocol period—from July 1942 to June 1943—we shipped over 3 000 000 tons of supplies to Iran and over the other routes to Russia. Besides this, many hundreds of airplanes were delivered under their own power. And as the ships going to Russia have been shifted from the Murmansk run to the safer routes, a far greater proportion of the supplies leaving the United States have actually been delivered. Back in the first nine months of our Soviet programme when most of the cargo

had to go round the North Cape, 15 per cent of everything we sent to Russia by all routes ended up on the bottom of the ocean. In the year that followed, we cut the losses from 15 per cent to 2.

## CHAPTER XXX

## SUPPLIES FOR THE SOVIET—III

PLANES and tanks are the most dramatic part of our Lend-Lease aid to Russia, but in the last analysis they are probably not the most important. As Admiral Akulin said soon after he arrived in this country, "By sending us raw materials and manufacturing equipment, you actually increase the combat strength of the Red Army considerably more than you do by the number of planes and tanks you send us."

From the first, we have sent Russia steel as well as tanks, aluminium as well as planes. Once in the summer of 1942, when the Russians feared that their stocks of aluminium were running dangerously low, a whole trainload of it was rushed across the country to the Pacific Coast on a non stop schedule. Besides aluminium, American copper and copper alloys are today being used in Soviet arsenals for the manufacture of guns and shell casings. And steel in all forms has been sent for Russian-made weapons and Russia's own machine tools—tool steel, bars, billets, sheets, strip, wire rope, pipe and tubing. Besides the metals, we have shipped a long list of chemicals and over 100,000 tons of powder, toluol and TNT for Russian bombs and shells.

Another part of the industrial programme got under way on a large scale fairly early. This was the supplying of rails for the Soviet's battered and heavily overburdened railway system. Later many car and engine wheels and axles were sent. Now we are manufacturing locomotives for Russia as well, and a complete block signal system that will speed up traffic greatly on some of the most important Russian lines.

Aside from raw materials and transport equipment, the industrial programme for Russia got off to a slower start. We did not begin to get real results in our programme of tools and factory equipment until after the middle of 1942. We had to place orders with American factories already choked with heavy lags. There were often unfamiliar Soviet specifications which had to be translated into American production terms before manufacturing could begin. And in a few cases at the start, we had to deal with reluct-



to think that we should try. We have got to use to the fullest all the resources of all the United Nations—men, industries, farms and natural resources—if we are to win the war as fast as we all want to win it. By sending small amounts of machinery abroad, we can open up vast new resources in the lands of our allies for our victory. In carrying out our industrial programme for Russia—as for our other allies—we have a single test which every request must pass: “Will sending this equipment help us win the war faster?”

In the beginning most of the space in our ships bound for Russia that was not taken up by weapons was used for industrial supplies. Since then, however, a third category of supply has become steadily more important in the Soviet programme.

When the Ukraine was overrun, the Soviet Union lost almost all its beet sugar producing areas and perhaps one-third of its grain production. The Nazi advance also cost the Soviet a large part of its supply of pigs, potatoes and vegetables. The Russians did everything possible to produce greater amounts of food in the areas still left to them, but this was not enough. As early as December 1941, we began weekly conferences with the Soviet representatives and the Department of Agriculture on the possibility of supplying some of Russia's food needs. British and Canadian food representatives sat with us because wheat from Canada and foodstuffs from other parts of the British Commonwealth would be needed in Russia also.

In the first part of 1942, shipments of food were limited almost entirely to wheat, flour and sugar. Looking ahead, however, the Soviet Government Purchasing Commission had requested for the future large amounts of canned meats and of fats and oils also. The Russians were short of food in general, but especially short of the proteins and fats necessary to maintain their fighting strength. Because of the food crisis, which grew steadily sharper, very strict rationing was enforced in Russia from the beginning. Workers in war factories are still permitted a food ration which gives them, it is estimated, not more than two-thirds of the requirements which we would consider the minimum for good health, white-collar workers and professional people get even less.

When General Burns was in Russia he found that the average Russian peasant apparently made his breakfast and lunch on black bread and a brew made from leaves which served as a substitute for tea. With a bowl of potato soup added, the same meal made up his supper.

Like the British, the Russians have taken special care of their citizens of tomorrow. American representatives who have been to Russia tell me that children almost always look healthy. Adults

not contributing to the war effort, however, often get next to nothing, and they have suffered terribly from malnutrition.

The best fed group in Russia today is the Red Army. Everything has been sacrificed for the soldiers, and Lend Lease food shipments have helped to keep their fighting strength high. They do not have anywhere near the variety of food that American soldiers have, but the men in the Red Army get almost as nourishing rations as the men in our own Army.

To keep their Army rations up to standard, the Russians throughout 1942 stepped up their requests for Lend Lease food—particularly canned meats, fats, dried peas and beans, dehydrated fruits and vegetables. Shipping was still short, however, and the need for military equipment was so pressing that large food shipments did not really get under way until October, after the Germans had seized the rich North Caucasus agricultural region. Then shipping priorities for food quickly mounted. By December 1942, food was sometimes taking precedence over steel.

Much of the food for Russia goes in concentrated form. The eggs are dried, the milk is condensed or powdered, the vegetables are dehydrated. It is in the Russian food programme that the expansion of our dehydrating facilities which we began back in 1941 has perhaps proved of greatest value. Our supply lines to the battle-fronts in Russia stretch half way round the earth. Shipping has always been very tight. When we can send ten shiploads of potatoes in one ship by dehydrating them, when we can send seven shiploads of eggs in one ship by dehydrating them, the amount of extra food we can supply to Russia and the amount of space on ships and trains and lorries that becomes available for other war purposes are very great.

Meats for the Soviet have been mostly canned and frozen pork and mutton. One special product for Russia is called "Tushonka." It is a canned pork product prepared from a Russian formula and now packed in several plants in the Middle West. Chunks of pork, seasoned with bay leaves and other spices, are put up with lard. The result is good hot or served cold right from the can, at least so the Soviet soldiers say. We are also now making in dehydrated form the traditional Russian soup, borsht, which is made chiefly from mashed beets, and other Russian soups made of potatoes, onions and carrots. They are packed in two-inch-square packages no bigger than a box of safety matches. When water is added, one of these small packages makes a big bowl of soup.

In spite of the serious Russian shortage of fats, we have not been able to ship much butter. We have sent instead quantities of lard, edible linseed oil, peanut oil, and butter substitutes such

as margarine Up to June 30th, 1943, we had shipped only about 12 000 tons of butter to Russia—less than 1 per cent of our production We have not scheduled butter for any other country The Soviet requested it especially for their wounded soldiers convalescing in military hospitals

Large as our food shipments to Russia have been, they have probably met only a small part of the caloric requirements of the Red Army, with none left over for civilians Measured in proteins vitamins and minerals, however, their value has undoubtedly been far more important than that I think it can be said that the food sent from the United States it would have been necessary either to reduce considerably the Red Army's rations or to cut ration of war workers well below the danger line in order to maintain the Red Army at top fighting strength

We are doing something more to help feed Russia's soldiers than just shipping food, however In the same way that we send refining equipment so that the Soviet can produce more of its own aviation petrol, we send seeds to help increase Russia's own food production Early in 1942, the first seeds were flown into Russia by air across Iran in time for the spring plating Since then we have sent over 9,000 tons of seeds in all They have been used to pioneer new agricultural regions on the undeveloped plains of Siberia and to replant the devastated areas which are being reconquered from the Nazis

By the middle of 1943, although we had been able to furnish only about three quarters of the shipping we had expected to make available, the over all figures of our aid to Russia had reached impressive size—4,100 planes, 138,000 lorries and jeeps, 912,000 tons of steel, 1,500,000 tons of food, and large quantities of many other war supplies Great Britain likewise has continued to ship weapons and raw materials in large volume Since the middle of 1943, we have both been continuing our aid under the schedules of a Third Protocol, and the rate of shipments continues to increase

For all this aid, the Russians have already made a return far beyond any measurement in dollars or tons It is in the form of millions of Nazi soldiers dead or in Russian prison camps, of Nazi tanks reduced to scrap on the battlefields, of Nazi guns and lorries left behind by the retreating German armies The Russians have paid a heavy price for the victories they have won in the defence of their own soil against Germany But they have done irreparable damage to the Nazi war machine The war will be much the shorter for it

## CHAPTER XXXI

## AID TO THE UNDEFEATED

MOST of the newspaper headlines of this war speak of victories won by forces of the United States, Russia, the British Commonwealth and China. But the stories under the headlines constantly remind us that these are not the only forces fighting the Axis. We read that units of the Norwegian Navy helped to protect the landings in North Africa, Dutch fliers bombed and strafed the Japs in New Guinea; a Greek destroyer sailed with the Sicilian invasion fleet; Polish and Belgian squadrons flew with the R.A.F. on a mission from Britain, Czech soldiers fought beside the Red Army in Russia; Yugoslavs attacked with the British 8th Army at El Alamein, the Fighting French destroyed Italian garrisons in southern Libya, the Philippine sub-chaser *Bataan* joined United States naval forces on anti submarine patrol.

These are the forces of nations whose homelands have been lost to the enemy. In exile they have continued the fight. They are the undefeated.

The first of the governments-in-exile was formed in Paris in September 1939. After Munich just a year before, Eduard Benes, the president of Czechoslovakia, had seen clearly that the independence of his country was doomed until the Nazis were destroyed. He had gone into voluntary exile to prepare the way for the establishment of a free Czech Government. When war broke out, he was ready.

Free Czechoslovakia joined Britain, France and Poland in the war against Hitler. The new Government rallied to its colours Czechs in the allied and neutral nations, and it helped others to escape from the Nazis. Soon battalions of Czech soldiers were fighting on French soil. After the fall of France they escaped to Britain to continue the fight. There were the first forces of the nations fighting in exile. Hundreds of thousands of others from many lands have followed in their footsteps, while those who remained behind have continued their underground resistance inside Hitler's European Fortress.

Some of the governments-in-exile, even after their homelands fell, had large colonial empires. They continued to provide raw materials for the war industries of the allies. Some had gold reserves deposited in allied countries and large fleets of merchant ships. But a few had literally nothing left to them save the men and women who managed to escape the Axis terror.

The governments-in-exile have devoted their remaining resources

to the prosecution of the war. They have contributed their raw materials and ships to the war of supply. They have contributed their man power to the fighting fronts. When their resources have not been sufficient, the other United Nations have helped them continue the fight to liberate their countrymen.

At the beginning most of this assistance came from the British, and they are still supplying the greater part of it. But since March 11th, 1941, all the governments-in-exile have become eligible for Lend Lease aid, except the Philippines, whose forces are merged with our own until the day of liberation. After she was attacked, Russia too joined Britain and ourselves in providing arms for the undefeated.

The men of the undefeated nations brought with them to the allied cause more than 10,000,000 tons of merchant shipping. When the Axis armies invaded their homelands, the crews of many ships that were in home port pulled up anchor and made for allied ports, even when that meant leaving homes and families behind. The crews of ships at sea, disregarding enemy radio instructions to make for Axis or neutral ports, also joined the merchant fleets of the United Nations. It was months before some were heard from, but one by one they continued to turn up.

These merchant fleets have played a decisive rôle in the battle of the sea lanes. Ranging in size from the Norwegian merchant marine of more than 5,000,000 tons through the sizable fleets of the Netherlands and Greece down to the six Philippine ships which escaped from the Japanese, all have counted. In the terrible months when the fate of Britain was in the balance after the fall of France, these ships probably saved the day on Britain's supply lines. They added almost 50 per cent to the tonnage of Britain's pre-war merchant fleet, and they helped carry to Britain the arms and war supplies that she so desperately needed from overseas. The Norwegian merchant marine alone, it has been estimated, carried 50 per cent of the oil and petrol and 40 per cent of the food brought to the British Isles during the Battle of Britain.

On June 6th, 1941, the defence of Norway was declared vital to the defence of the United States under the Lend Lease Act. Norway's territory was all in the hands of the Nazis, but most of her merchant ships were still free, and the maintenance of that fleet was essential if Britain was to continue the struggle against the Axis. Thereafter many Norwegian vessels were armed and repaired under Lend Lease in American shipyards. As the other undefeated nations were declared eligible for Lend Lease also, these services were extended to the merchant ships of Greece, the Netherlands, Yugoslavia, Poland and the others.

This Lend Lease aid was badly needed. The ships of the govern-

ments-in-exile had no deck guns to protect them against submarines, no anti aircraft guns and no anti mine devices. The hard pressed British could not possibly arm them all at once, and in the beginning many sailed completely unarmed, relying solely on convoy escort for protection.

In addition to arming their merchant ships, the United States is now helping to train gun crews for the merchant ships of the undefeated nations. At Travers Island, near New York City, for example, a Lend Lease school with accommodation for 450 men has been opened to train Norwegian gun crews. When they graduate, they are members of the Royal Norwegian Navy. There is also a school in Britain for gun crews of the Netherlands Navy.

The merchant fleets in exile have continued to carry supplies to Britain, and they have taken part in many other hazardous operations—in the evacuation of Crete, in supplying the long isolated British garrison at Tobruk, in convoys to Malta and through the dangerous northern waters on the route to Murmansk, and in the invasions of North Africa, Sicily and Italy. They are operating also on the sea lanes in the Pacific.

Axis submarines, planes and surface raiders have inevitably taken their toll of the merchant fleets of the governments in-exile. Belgium, for instance, has reported losing 60 per cent of her merchant marine, Norway 40 per cent, and the Dutch almost as much. In addition to ships sunk, many others have suffered heavy battle damage. Damaged vessels have been repaired in British ports and under Lend Lease in American ports, but the losses continue.

Ship sinkings have posed a doubly serious problem for the undefeated nations, because they cannot replace any of their losses from their own shipyards, which are now in Axis hands. For centuries Norway, the Netherlands and Greece have been maritime nations. The prospect of entering the post war world with only a fraction of their former merchant marine is a particularly frightening one for these countries. To make up for a part of the losses, Britain has permitted the governments in-exile to participate in her own limited merchant shipbuilding programme, and the United States has chartered some vessels to them under Lend Lease. The Norwegians, for example, have obtained in Britain eighteen vessels totalling 187,000 tons and from the United States eight Lend Lease vessels totalling 79,600 tons.

On September 16th 1942, the President turned over to the Norwegian Navy a 170-foot American sub-chaser christened *King Haakon VII*. In accepting it, Crown Princess Martha summed up what America's fighting strength meant to her country. "The tidings of America's rapidly increasing mobilized man power and war production, of the flaming spirit of America's fighting forces

are every day telling our hard-ried people that with such an ally we cannot fail "

The United Nations will not fail. But their victory will have been speeded in no little part by the warships of the undefeated countries. Before these navies withdrew from their home waters, most of them suffered heavy casualties. But the sailors brought with them into exile everything that would float, whether badly damaged or in fighting trim, to prevent it from falling into Axis hands. The Dutch, when they fled from Holland, even managed to tow an unfinished destroyer, the *Isaac Sweers*, all the way to Britain. There she was outfitted and gave two years of valiant service in hard action with the allied fleets before she was sunk while fighting off enemy submarines during the invasion of North Africa.

The British have made available destroyers, corvettes, mine-sweepers and submarines to the navies of the governments in-exile that have operated under British command. To the Poles they have lent the cruiser *H.M.S. Dragon*, now the largest ship in the Polish Navy. To the Norwegians they have turned over four of the destroyers we traded to the British in exchange for the bases. Another of the over-age destroyers, the former *U.S.S. Tillman*, now *H.M.S. Wells*, has been manned by refugees from Fascism of many nationalities. At one time her officers and crew spoke French, Spanish, Danish, Italian and German. We too have helped to rebuild the navies of the undefeated. Under Lend-Lease we have repaired damaged warships, and turned over American submarines, mine-sweepers and trawlers.

The warships of the undefeated nations are fighting side by side with us in every ocean. Polish warships, protecting convoys to Murmansk and operating in the English Channel, have sunk thirty-five enemy surface vessels and ten U-boats. Greek ships have participated in important operations in the Mediterranean. The Norwegian Navy maintains warships on the Atlantic convoy routes, in the Red Sea, and even in the Caribbean. The Dutch Navy, too, has continued in action in both the Atlantic and the Pacific, and the submarines of all have taken their toll of Axis shipping.

The air forces of the governments in-exile are in the fight in ever-growing strength. Dutch fliers are operating in the South-west Pacific with Lend Lease Mitchell medium bombers. Yugoslav airmen will soon be flying Liberators with the U.S. Fourteenth Air Force from Mediterranean bases. In the British Isles, in North Africa, Egypt and Italy are thousands of fliers of the governments-in-exile. There are more than 10,000 Polish airmen in Britain.

alone, and their bombers have participated in over 600 raids on the continent of Europe and against enemy shipping. Dutch, Czech, Norwegian and Belgian pilots fly with the R.A.F. in fighter, bomber and patrol squadrons and help to ferry planes on the air supply routes to the battle fronts.

While the British have furnished most of the planes for these air forces, many planes and a great deal of other equipment have come from the United States. Some of the undefeated nations began to buy planes here back in the days of cash-and-carry. In January 1940, for example, a Norwegian Purchasing Mission came to the United States and placed orders with Douglas, Lockheed, Northrop and other manufacturers. None of the planes were ready for delivery until the following December. By then Norway had fallen, but the Norwegian Government in-exile accepted and paid for the planes. Twenty-four Northrop dive bombers secured under these original cash purchases were used to equip Norwegian air squadrons in Iceland, where they have since remained on convoy protection work. Others were used to establish, late in 1940, a flying school in Canada, known as Little Norway. To this training centre have come more than 1,000 Norwegian air cadets. Since the passage of the Lend Lease Act, we have sent to Little Norway more training planes as well as ground equipment, uniforms and other supplies.

Most of the air forces of the governments in-exile have been trained in Britain, South Africa, India or Canada under the Commonwealth Air Training programme. But they have been coming also to the United States. One of the largest groups is composed of Dutch air cadets who escaped from the Netherlands East Indies. The first contingent arrived in San Francisco in May 1942. Some of them went to Fort Leavenworth, Kansas or Guelph, Ontario, for basic training. The rest went immediately to Jackson, Mississippi, where an air training centre was established for them under Lend Lease. There the cadets have been taught principally by Dutch instructors, who have had plenty of experience in the war against the Axis. One of the instructors was captured fighting the Nazis during the invasion of Holland. He managed to escape and make his way to the Indies, where he fought against the Japanese until the last. Then he escaped again.

Many of the first 600 Dutch air cadets have already graduated and returned to fight in the South west Pacific under the command of General MacArthur. One group calls itself the 'Incognito Squadron' because the names of most of its members must remain secret. Their families are in the Indies, at the mercy of the Japanese.

Already these Dutch fliers have taken part in many raids over New Guinea and other islands in the South west Pacific. As the



graduates leave for Australia, new cadets continue to arrive at the training centre in Jackson, Mississippi. They too will soon be ready to return to the war against Japan.

When Crete fell to the Nazis in May 1941, the Greek Air Force had been reduced to just two planes, but many Greek fliers escaped to Egypt and the Middle East. There they have been furnished with British and American planes and have operated for over a year with the British forces. On July 23rd, 1943, the reconstituted Hellenic Air Force for the first time attacked the enemy in force on native Greek soil. Greek and R.A.F. Hurricanes, Beaufighters and Baltimores joined in a major daylight raid on Crete, blasting Nazi airfields, gun positions, ammunition dumps and wireless stations. The air power of the undefeated nations is growing steadily with American and British aid.

The day after Petain asked for an armistice in June 1940, General De Gaulle, who had flown to England, broadcast an appeal: "France has lost a battle! But France has not lost the war. That is why I ask all Frenchmen, wherever they may be, to unite with me in action, in sacrifice and hope." Among the French colonies, French Equatorial Africa, the Cameroons and New Caledonia rallied behind De Gaulle.

The French colonies in Africa, and the Belgian Congo, which rallied to the standard of the Belgian Government in-exile, have since been important sources of raw materials for the United Nations. From them have come rubber, tin, copper, cobalt, fibres and palm oil. The Belgian Congo alone produces a major share of the United Nations supply of industrial diamonds. We have sent under Lend Lease small amounts of machinery to increase production of these vital raw materials. To improve transport so that the raw materials may be brought to the coastal ports, we have lended road building equipment and some lorries, and material for the repair of river boats and railways.

Forces recruited in the French and Belgian territories have played important roles in the fighting since 1940. Thousands of Belgian colonial troops joined British forces in the liberation of Ethiopia from the Italians. French troops participated with British and South African forces in the reconquest of French Somaliland from Italy. Later that year the Fighting French joined the 8th Army in Libya.

The ground forces of the governments in-exile are to be found in the largest numbers in the Mediterranean theatre. Those Greeks and Yugoslavs who escaped after the disastrous Balkan campaign re-formed their ranks in the Middle East. From time to time more of their countrymen joined them. After the Fighting French took over Syria in 1941, more French forces were recruited in this area.

Theo in 1942 they were joined by 100,000 Poles who came from Russia to the Middle East by way of Iran. Among the later recruits for these exiled armies have been the Yugoslavs who had been interned in Libya by the Italians and were liberated by the 8th Army after El Alamein.

The British took on the major share of the responsibility for converting the remnants of the defeated Axis armies into fighting forces several hundred thousand strong. Many of them have fought well and bravely in the campaigns of Africa, and will surely play an important rôle in the liberation of their fellow countrymen in Europe.

The Axis is finding soldiers of the "conquered" countries on all the battle-fronts. There is today more significance than ever in the story of a Nazi prisoner of war captured in Libya by Polish soldiers. "I have been fighting the Poles since 1939," the prisoner complained. "I fought them in Poland, I fought them in Norway; I fought them in France. Now in Libya I have been captured by them."

The soldiers of the undefeated are indeed everywhere. Polish forces are fighting in Russia too, and there are Czechs who fought side by side with the Red Army in British uniforms and with Russian arms before Kharkov. In Britain, besides the troops of the other exiled nations, there are Belgian artillery and infantry units. From Britain Norwegian Commandos trained in Canada and Scotland have already prepared for the reconquest of their homeland in daring raids on Nazi strong points along the Norwegian coast.

Forces of the undefeated stand guard too, in the Western Hemisphere—in Curaçao and Aruba in the Caribbean, which supply us with quantities of oil and aviation petrol, and in Dutch Guiana in South America, which sends us bauxite for aluminium. Dutch troops trained in Britain were first sent to help garrison these territories in September 1941. To them also we have lent leased military equipment.

The great masses of the undefeated peoples, however, are still inside Nazi held Europe or on the Japanese-occupied islands of the Pacific. Millions have died. Millions more have suffered the untold horrors of prisons or concentration camps. The Nazis and the Japanese have done everything in their power to break them in body and in spirit. Still they resist.

Pending the liberation of Europe, the United States, through Lend Lease, has joined with other United Nations in a few preliminary steps to relieve, in some small measure, the suffering of those inside Europe. We have undertaken to supply 56,000 Polish

and 140 000 Yugoslav prisoners-of-war held in Axis prison camps with an eleven-pound food package a month for each. The Polish and Yugoslav Governments-in-exile were not able to buy such packages which go regularly to British and American prisoners-of-war. The Nazis had exploited this situation by ostentatiously distributing packages for American and British prisoners in front of the Poles and Yugoslavs, who were told that their allies had forgotten them. The Lend Lease prisoner-of-war packages have now put a stop to that particular piece of lying propaganda.

We have sent some food and clothing to Polish refugees, and in the autumn of 1942, the United States joined Canada in sending food to the starving population of Greece. The food is shipped on Swedish vessels, chartered to the Red Cross, that operate regularly between St. John's, New Brunswick, and Piræus, the port of Athens, under a safe-conduct pass from the Nazis. Canada furnishes wheat, and we supply dried peas, dried beans, dehydrated soup and evaporated milk. A committee of Swedes and Swiss supervises distribution of the food to make sure that it reaches the people for whom it is intended.

These are small steps indeed. The great tasks of relief and rehabilitation must await the liberation of Europe. That day is now rapidly approaching. The forces of the undefeated people are joined with ours in breaching Hitler's fortress from without while the guerrillas and the underground are weakening it from within.

## CHAPTER XXII

### A VISIT TO WAR-TIME BRITAIN—I

At 1.30 on the afternoon of July 15th, 1942, a uniformed guard admitted me to Number 10 Downing Street. I was with William C. Bullitt, who also had just arrived in London on a naval mission for Secretary Knox. The long line of hats hanging in the hall when we entered told us that the War Cabinet was still in session, and we were shown down to a small sitting room on the floor below to wait for the Prime Minister.

Mrs. Churchill quickly came in to greet us. Her gracious hospitality, a little fire burning in the grate, and a view of an English

walled garden through the windows soon made me feel as if I were making a casual call on a friend in the country rather than lunching with the Prime Minister of Great Britain in war time London

I had come to Britain to see Lend Lease in action. It had been hard to get away from my job in Washington, but I had felt for a long time that I should supplement the reports of our overseas missions by seeing for myself how Lend Lease and Reverse Lend-Lease actually work in the field. Britain was closest and would give me a good cross section in the short time I had to make such a trip. I had arrived in London the evening before my call on the Prime Minister, after a Clipper trip across the North Atlantic to Ireland and a short hop across the Irish Sea.

I had already had my first experience of the gratitude of the average Britisher for the aid which we are giving them. At a stop in Bristol on my way to London, the station master, hearing that I was an American connected with Lend Lease, rushed up to me, introduced himself, and told me that his son was in the United States. He was at a field near Albany, Georgia, learning to be a pilot under the Lend Lease training programme like so many thousands of other R.A.F. cadets. The people, he had written his father, were "very friendly," and the food was "glorious." There was no British restraint in the station master's excitement. He could not thank me enough. "You Americans are taking wonderful care of our boys there," he said as I left for London "and we are all deeply grateful for it."

I thought back to my talk with an American newspaper man between planes in Ireland. "This rubbing of elbows between the allies," he had said to me, "and the letters the soldiers write home will do more to build the United Nations than all the stories our papers could ever print."

Now I was waiting to discuss with the Prime Minister the over all picture of the war and Lend Lease before I began my own first-hand inspection. In about ten minutes, Mr. Churchill came in and greeted us with the same warmth and high spirits I had enjoyed when I met him in the United States the January before. He promptly ushered us into a little dining room, where steel beams overhead were a constant reminder of the battering from the air that London had taken.

As we began the simple kind of lunch that tight English rations will permit, the talk moved quickly from one subject to another. Bullitt recalled the last days in Paris before the fall of France. Mr. Churchill spoke of my father, whom he had known well in the last war and with whom he had visited the battle-fronts in France. The conversation soon turned, however, to the battle in Egypt.

Only two weeks before, Rommel had pushed through to El Alamein, and was now gathering his strength for another offensive on the Suez. If he should succeed, the whole Middle East might fall. Germany and Japan might meet in Asia and cut the United Nations in two.

Underneath his high spirits and vigorous talk, I could see the fearful strain that Mr. Churchill was under that summer. These were the darkest days for Britain since the disasters in Greece and Crete during the spring of 1941. He must have known that the morale of the British people was under a severe strain. It was a moment when all his moral strength and vigour of intellect were being tested to the utmost.

In the face of the desperate situation in Egypt, however, Mr. Churchill talked only of attack, of pushing the Axis out of Egypt and back across Libya. He referred again and again to the United States Air Force in Egypt, to the ferry route from the United States across Africa, and to the Lend Lease supplies which we were sending to the British 8th Army. He seemed firmly confident that the Middle East would be held. "I hope to give you a victory before you return to America," he said to me. He was not far wrong. I had only just returned to the United States when Rommel's final drive for the Suez was broken.

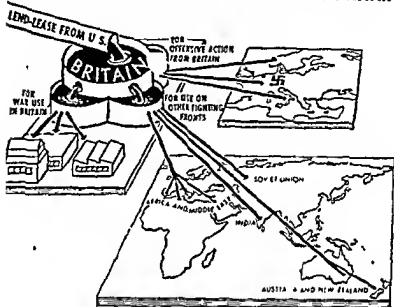
After we had finished our lunch, Mrs. Churchill left us, and we settled down to discuss the problems of war supply. As we talked, the Prime Minister took out a little antique silver box and passed it to me. I opened it to find a fine blackish powder inside. In answer to my questioning look, he replied, "Snuff. Have some." I declined. But after I saw him put a pinch on his finger, snuff it into his nose, and then sneeze, apparently with great enjoyment, I could not resist trying it. It was not half as bad as I had always imagined.

We talked of the tremendous problems involved in supplying at the same time all the battle-fronts in the Pacific, China, India, the Mediterranean and Russia. We discussed the rate of ship sinkings, then still higher than new ship construction, and the effect of this upon our strategy of supply. He gave me a vivid description of some of the tremendous convoy battles fought that year on the routes to Murmansk and Malta.

We talked over the philosophy of the United Nations pool of resources, and the necessity for dividing it up always in accord-

Mr. Churchill told me how when a large commitment for airplanes we had made to Britain in January had been scaled down very sharply because of more pressing needs in Russia and the

# WHAT HAPPENS TO LEND-LEASE SENT TO BRITAIN



Pacific The British understood the reasons, however, and they themselves in the previous six months had sent more than 1,200 planes and 1,300 tanks to Russia, although both planes and tanks were needed in the Middle East

As we talked of planes for Britain, Mr Churchill described in great detail the bombing operations directed by Air-Marshal Harris The Prime Minister was confident that these massive air raids would do much to bring the Germans eventually to their knees I recalled my first meeting with Harris almost a year before in Washington He had given to a group of us one night in Sir Clive Baillieu's apartment a picture of the whole strategy of mass bombing A few months later, he had been called back to London and told to put his ideas into action On the night of March 3rd, 1942, a two-hour raid on Billancourt, an industrial suburb of Paris, had marked the real start of the air offensive The raids steadily grew heavier, until, less than three months later, 1,100 planes had taken part in the great raid on Cologne These had been all R A F. raids, but just one week before I arrived in England—on the

Fourth of July, 1942—the first American bombers piloted by our own fliers had crossed the Channel with the R.A.F. Only a few American Air Force bombers had arrived up to then in Britain, Mr Churchill said. But the ground work for the great forces to come was already being laid.

When I finally got up to leave, Mr Churchill said, "We must walk round the garden before you go." For over two hours we had talked of nothing but the battle-fronts and the supply lines. As we walked through the little flower garden behind Number 10 Downing Street, however, he began to talk of the United Nations and the peace to come. "We are approaching our war problems as partners now," he said as we entered the house again. "After we have won the victory, we must make a lasting peace by continuing to stand side by side."

Two days after I reached London, General Marshall, Admiral King and Harry Hopkins arrived in great secrecy with a party of military and naval officers to make the final decisions for the campaign in North Africa with General Dwight D. Eisenhower and the high British officers. We were staying at the same hotel, and over the week-end I had several long talks with Hopkins and General Marshall while they were resting after the Atlantic hop before the long round of technical and strategic conversations began. All the military men I talked with took it for granted that only through the most complete co-operation and sharing of leadership, fighting men, ship and battle equipment could the United States and Britain successfully take the offensive. And for this co-operation Lend Lease and Reverse Lend Lease would be essential.

During the first few days after I arrived I spent many hours also with Averell Harriman who had so effectively handled Lend-Lease affairs in London. The detailed knowledge of the British war agencies and their work which he showed made clearer than ever to me why in the fifteen months he had been there he had made his mission so powerful an instrument for United Nations co-operation. While I was in London, Philip D. Reed arrived to become Harriman's able deputy and to represent Donald Nelson on the London side of the Combined Production and Resources Board just established by the President and the Prime Minister.

Harriman helped me plan a schedule which would enable me in a month to see as much as possible of Lend Lease operations in Britain. I talked with many British officials, alone in their offices, at meetings and over the luncheon table. Anthony Eden, the Foreign Secretary, the late Sir Kingsley Wood, Chancellor of the Exchequer, Colonel Llewellyn, Minister of Aircraft Production, A. V. Alexander, First Lord of the Admiralty, Sir Archibald Sinclair, Secretary of State for Air, Lord Cherwell, the Oxford

professor of physics who is now the Prime Minister's brilliant personal adviser; and many others in the Government gave me their points of view on what Lend Lease had meant to the British war effort

Lord Leathers, the Minister of War Transport, was emphatic in saying that the Lend Lease shipping programme had saved the situation at the worst moments of the submarine war in the summer of 1941, when, as Sir Arthur Salter said in Parliament a few months ago, the shipping situation was "so serious as to threaten the whole issue of the war" Ernest Bevin, Minister of Labour, gave me some figures on how much the labour-saving machinery we were sending was doing to ease the serious British man-power shortage Bevin also told me another side to the story; he had moved 250,000 workmen to build bases and camps for the American troops who were then arriving

To Lord Catto, an old friend of my father, and Lord Keynes of the Treasury fell the burden of giving me the figures on Britain's financial position Catto had been a business man; Keynes was Britain's leading economist Both had been in the Government during the last war, and both had given up their jobs again to work as advisers to the Treasury In a series of conferences, these two—Catto with his hard-headed business sense and Keynes with his brilliant insight into financial problems—gave me the whole story In this country we often tend to think of Britain's financial difficulties only in terms of a lack of United States dollars I realized more fully, after these conferences, how serious were the financial problems the British faced all over the world

In comparison with the United States, the British Isles have very few natural resources In order to make both ends meet, Britain's forty six million inhabitants for many decades have had to import raw materials for manufacturing the finished products which they sell to other countries Their national economy is very unlike ours, for we have a large percentage of the raw materials we need here at home, and sell within our domestic market a far higher percentage of our production Unlike us also the British have had to import a large part of their food Since the beginning of the war, the British have had to import in addition to their minimum civilian needs, enormous quantities of finished munitions and raw materials for making munitions They had to buy more than ever from abroad, and this meant that they had to sell as much as they could to obtain the foreign exchange they needed During 1940 British manufacturers were encouraged by the British Government to export everything the country could possibly spare from the immediate needs of the war

The export drive was pushed vigorously, imports of food and



normal civilian supplies were cut to the bone. The British sought desperately to strike a balance, but in the end it was a losing proposition. They needed their factories and their raw materials to manufacture bombs for export by the R.A.F. over Germany, not peacetime goods to sell to friendly nations. Their reserves of foreign exchange shrank steadily. This was true not only of dollars for munitions from the United States, it was true also of pesos for meat from Argentina and of other foreign currencies.

Then in 1941, when the dollar situation was really critical, came Lend Lease, and early in 1942, when British resources in Canada were almost exhausted, the Canadian Government made its first thousand million dollar gift. The worst of Britain's foreign exchange problems were solved. The British could now drop in large part the struggle to obtain dollars from exports and could put more of their factories into the production of arms.

But the strain on their capital resources in other parts of the world continued. The United Kingdom has borne most of the cost of the war in India, the Middle East, and throughout the Colonial Empire. It has financed several of the armies-in-exile. It has been sending many military supplies to Russia and China. Meanwhile, since 1941, British commercial exports, with which to pay for the continuing imports of food and raw materials, have steadily declined. Commercial exports to countries outside the Commonwealth are down to less than half of what they were in the years just before the war. Even within the Commonwealth, British exports have declined, in spite of the large demands of India and the Dominions for war goods.

Inevitably, Britain's liabilities have piled up higher and higher. And in the United Kingdom, these are not merely internal debts like our own national debt, which we owe to ourselves. The British owe vast sums to other nations as well. More than half of the net overseas assets that Britain has accumulated over the centuries have gone in four years to pay for the war we are fighting together.

It has been a continuing struggle to keep solvent—in sterling, in gold, in dollars, or in any other medium of foreign exchange. Catto and Keynes did not tell me all this, they simply gave me the facts and showed me the balance sheets of war-time Britain, which spoke for themselves. They did tell me, however, that without Lend Lease it would have been a hopeless job.

The general talks I had with British officials were helpful in bringing into sharper focus what Lend Lease had meant to Britain, but I wanted to get down to the bed rock of hard facts and production figures. Most of all, I wanted to see for myself how the British were using the raw materials and industrial machinery sent to them under Lend Lease. But one cannot travel round the

British Isles and see great munitions dumps marked "Made with Lend Lease materials"; one cannot visit "Lend-Lease" factories where all the machinery and raw materials have come from the United States. The stream of Lend Lease goods to Britain flows into every phase of British life and British industry and mingles with goods from all the other sources of supply. To see Lend-Lease actually at work, one must inspect entire segments of Britain's war effort.

To start me off, Oliver Lyttelton, the Minister of Production and the British counterpart of Donald Nelson, gave a dinner at which I met many of the British officials concerned with the problems of war production and supply. Lyttelton and Sir Robert Sinclair, who was just about to leave for Washington to become Lyttelton's deputy on the Combined Production and Resources Board in Washington, gave me the over-all story. Then in many conferences that followed, officials of the Ministry of Production and the Ministry of Supply described to me in detail how the tight raw materials supplies of Britain are allocated. Each Ministry submits to an Allocation Committee its needs for raw materials. These are then analyzed and cut to fit the cloth. In the process, estimates must be cut down, substitutes must be found, some requirements which might normally be thought very important have to be eliminated altogether. Priorities, they said, were unworkable, and I agreed heartily. It was a point I had been urging in Washington for a year and a half. The only solution, as we too were discovering at that time, is to make definite allocations of the total supply of each scarce material among all the competing needs.

With Lord Portal, Minister of Works and Chairman of the Materials Committee, I carefully went over the list of strategic war materials. Rubber, as I had known, was in the shortest supply of any raw material in Britain. It had been necessary to stop all ordinary civilian driving. Rubber scrap collections, however, were being pushed, and more and more reclaimed rubber was coming into use. Indeed, more scrap had been collected than could be reclaimed in British factories, and the excess was being sent to the United States in return for reclaimed rubber we sent to Britain.

I was surprised to find how critically short the timber supply had become. The war had cut off imports from Scandinavia, and it was difficult to find shipping for timber from across the Atlantic.

programme was dependent on imports of balsa wood from Ecuador and of spruce and birch from North America. These bombers,

the fastest in the world, were just going into service when I was in England, but they have since made a notable place for themselves in the sweeps over Europe. They are Britain's best known wooden combat plane, but every plane made in England contains some wood as a substitute for aluminium. The British needed wood for many other war purposes as well—for props in the coal mines and for the vast amount of temporary wooden construction which the war required. When I was in Britain, imports of timber had risen to third place in volume, exceeded only by food and steel.

As we talked over the items on the list of strategic materials—copper, zinc, lead, aluminium, industrial chemicals and many others—I decided to pick out one of them and study it in even greater detail. I picked steel, since it was the industrial material which we were sending in greatest volume from the United States and also the one about which I knew the most.

To study the British steel position, one must go to Ashorne Hill, 90 miles north west of London. With Winthrop Brown and Arthur Notman of the Lend-Lease Mission, I left London early one morning so that we could visit two British war plants on the way. We stopped first at an airplane assembly plant. It was turning out Spitfires and Lancasters at an astonishing rate. We were taken through it from the stock-room where the parts are received to the factory door where the test pilots were waiting to put the finished planes through their paces. As in other aircraft factories in England, almost half the workers were women, doing every kind of job from punching rivet holes to operating the most complex machine tools and presses. Some of the planes coming off the lines were painted black for night sweeps over the Continent. Others, to be sent to Africa, were painted with desert camouflage—bright blue on the bottom and tawny brown above.

As we reached the end of the assembly line, we looked out of the factory door at a rainy, windy day. The ceiling was low, it was "dirty" weather. But the eyes of Henshaw, the well known test pilot, lighted up when he saw us.

"I expect you would like to see some flying," he said. "Just let me get my parachute."

While he was gone, they rolled out a Spitfire, which had never before been in the air. He climbed in, gave the new engine five minutes to warm up, and started down the field. He took off and climbed straight up into the low clouds. A minute later, he suddenly shot by in front of the door upside down and, it seemed to me, no more than thirty feet off the ground. Then he was off up in the clouds again. American tools and raw materials had helped to make a great plane.

In the next plant we visited, 1,600-horse-power Hercules engines

were rolling off the lines to be sent to assembly plants such as the one we had just seen. Again, we saw the whole plant from the raw materials to the sealed chambers where engines were being tested in all types of flying weather. Warner & Swazey grinders and Cincinnati milling machines from the United States were hard at work on the production line.

The manager of the engine plant told us about a heavy air raid that had hit the nearby town where most of the workers lived. For a few days engine production dropped badly while the workers found new homes and helped clear away the worst of the wreckage. Then the production rate began to climb, until in a few weeks it was higher than ever before. "They felt they had been on the battle-front themselves," the manager said, "and they went at it heart and soul."

After spending a day in these huge war plants, we were startled when we arrived at Ashorne Hill that evening and found a lovely English country estate. It seemed a strange place at which to talk with the men who controlled the steel supply for all Britain. As we drove into the grounds, we saw a magnificent stone house surrounded by gardens, greenhouses and stables. The illusion of a quiet country estate, however, soon vanished. The gardens and greenhouses were devoted to vegetables, not flowers. There were 500 people working in the great house—days, nights and week-ends. And in the box stalls of the stables, which in peace-time sheltered fifty blood horses, were now to be found the executive offices of the Iron and Steel Control of Great Britain.

Sir Charles Wright, the head of the Control, met us. He had been in charge of Britain's steel programme in the last war. Almost my first question was why the Control had its headquarters out in the country so far from the centre of things in London.

"We had to come out here because we were bombed out of London," he answered. "And it's magnificent. We can do our work without being interrupted every day by a dozen meetings where nothing ever seems to get done." Sometimes, back in Washington, I think of Ashorne Hill with envy.

All that evening and the next morning we asked Sir Charles Wright and members of his staff questions about steel. I knew that Britain had increased its own steel production, but this was still only about four fifths of what they felt they needed for their war production programme. The other fifth they asked us to supply under Lend Lease. Sir Charles Wright and his assistants

guns, merchant shipping, battle engineering equipment, and ordnance factories accounted for most of the rest of the Service steel. The remaining one-quarter of the steel supply goes mostly into maintaining the factories, the mines, the railways and the power lines without which British war production could not continue.

After we had carefully gone over the British uses of steel, item by item, I was satisfied that the steel which comes from the United States is being used only for purposes essential to speed our victory. And it was plainer than ever how vital a part of the United States' own war effort is the lend leasing of such industrial supplies. The British have factories and shipyards which can turn out vast quantities of war equipment that are needed for winning the war not only by themselves, but by us and by our other allies as well. Arms from British factories are being used in great quantities against our enemies on nearly every front. By supplying relatively small amounts of strategic materials and by replacing worn out machine tools, we help to keep up the flow from these factories to the fronts.

Several things about the British iron and steel picture disturbed me. In Bristol, I had seen the steel frameworks of many blitzed buildings still standing. And in London, near the American Embassy, I saw day after day the huge steel girders of some large buildings which had been wrecked in the air raids many months before. What bothered me most, however, was to see the high iron fence round the park in Grosvenor Square every time I walked out of the United States Embassy. It seemed to me that the British were not making the most of their scrap collections, and I pointed this out at Ashorne Hill. I told them we could not continue to supply them under Lend Lease at the present rate unless they were collecting all the scrap iron and steel they possibly could at home.

After I had been shown the entire picture on scrap, I realized that I had jumped to conclusions a little too fast. Large amounts of iron and steel scrap were being collected systematically, but the British could not spare the man power or the railroad trucks to collect it all at once. They were starting with the blitzed areas nearest the steel mills and gradually working outwards. Railings and fences were also being dismantled under a nation wide plan. I did not feel completely easy about it, however, and asked the Lend Lease mission to keep me informed. Their reports showed that the collections continued at a steady rate. I must confess, however, that it was good news to get the message a few months later that "the railings in Grosvenor Square are down at last."

In London, I also had a long working conference with the officials of the Non Ferrous Metals Control, which is in charge of Britain's

copper, zinc, lead and other metals. Again I was satisfied that these metals were being used as completely for war purposes as Britain's iron and steel. By this time, however, I was very scrap-conscious. I had noticed many ornamental brass signs and other sources of metal scrap which were not being utilized.

After talking the situation over with the British officials, I had to tell them I was not satisfied that there was any good reason for

own sources of supply. There were difficulties in getting the men and lorries to do the job, but they undertook it and achieved substantial results.

Criticisms, such as I had made about the scrap situation, were the exception. I had come to London to learn about the British side of the war, not to tell them how they should win it. But the freedom with which I felt I could criticize them was an important example of the mutual frankness which I found was the order of the day between Americans and Britishers in London. The British were ready to show me whatever I wanted to see and to tell me whatever I wanted to know.

I thought back often to the autumn of 1941, when I held up an important British requisition for steel for several days because the British had been slow to disclose their steel inventories to us. Such difficulties were now a thing of the past. But frankness works both ways, and British officials did not hesitate to tell me where they thought we were making mistakes and to offer suggestions of their own.

I took it as a good omen. Only by such mutual frankness can we successfully work together in solving our problems both in war and in the peace to come.

#### CHAPTER XXIII

### A VISIT TO WAR-TIME BRITAIN—II

A few days before I left Washington for London, I asked several friends who had visited war time Britain to tell me whether there was any particular type of gift which would be most welcome there. Their answer was unanimous—Food.

So it was that on my brief stop, as I stopped on the *Clumber* at 13 *Guardia* . . . . .  
 been I . . . . .

like the one Churchill had told me he enjoyed so much when he was in this country the January before. On my first day in London, I presented it to Mrs. Churchill. She warmly expressed her thanks but Bullitt, who was with me, eyed it critically.

"It looks awfully small," he said.

I protested that only forty pounds of baggage were allowed each passenger on the Clipper, and that I had to cut all the fat off in order to squeeze it in at all. Bullitt was not to be stopped as easily as that.

"Ed," he said solemnly, "you haven't been in England long enough to know that meat is as precious as gold over here. You should have left your shoes at home if necessary, but not the fat off that ham."

Just then Mr. Churchill came in. After he also had thanked me for the ham with a great burst of Churchillian eloquence, Bullitt assumed his solemn air again and told him about the fat. The Prime Minister paused, then said in equally solemn tones, "This time we shall forgive him—but never again." He broke into a broad smile as he looked at the brown paper package and warmly thanked me a second time.

This hamster was rooted in hard facts. The facts on Britain's food position which I was to learn at first hand in the following days were among the most significant and inspiring of all that I looked into during my stay there.

The best way for an American to get a general picture of the British food situation is to imagine what New England would be like if one-third instead of one-sixteenth of all the people in the United States were packed into that small area and their nearest outside source of food were removed several thousand miles across a submarine infested ocean. That has been Britain's position ever since Hitler invaded Western Europe.

Before the war, for every pound of food raised in Britain, two pounds had to be imported. Then in 1940, all nearby sources of food had been suddenly cut off, ships were needed for guns and planes, submarines were taking a fearful toll. The British people were literally in danger of starving. To meet this crisis, the British made an intensive effort to increase their home production.

The government had to take drastic measures to increase food production. It had to make room for more farms. Golf courses and the parks of great estates were being ploughed up and tilled. Marshes were being drained, and hilly land that in this country would have been thought almost useless was being made to produce food. Family victory gardens had been planted on every vacant piece of land round the cities.

Farms large and small were everywhere. But increased production alone could not solve Britain's food problem. To cut their diet to fit their incomes, the British had to undertake...

production, tightened their belts and cut their imports so that the statistics were reversed—for every two pounds of food grown at home, now only one pound was imported from overseas. The two men principally responsible for this achievement are R. S. Hudson, the Minister of Agriculture, and Lord Woolton, the Minister of Food. The first is responsible for producing all the food that can possibly be grown on the British Isles, the second is responsible for deciding what to import, getting it imported, and then distributing the entire food supply so that everybody gets his fair share.

In a crowded month, I could not make a detailed inspection of Britain's farms, but Paul Appleby, Under Secretary of our Department of Agriculture, and others from the Department had been in Britain for many months sharing ideas with Ministry of Agriculture officials, and from them I got the full story.

The British on their small island have had for many years to cultivate their land more intensively than we in the United States with our broad expanses of farming country. Yet since the beginning of the war, they have been able to increase by half again the amount of land under crops. And this has meant more than merely adding new land to that already under the plough, for much ideal farm land has been taken to build the huge air bases for the R.A.F. and for the United States Army Air Forces. Other land has been taken for the new aircraft factories and arsenals upon which Britain's fighting strength so largely rests.

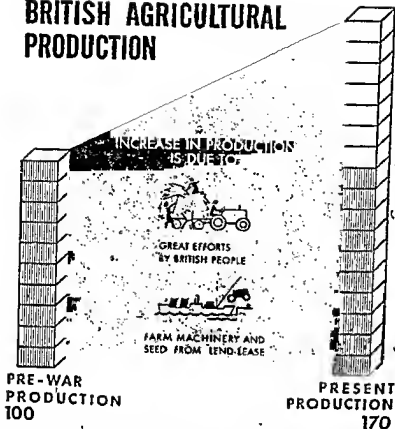
A great expansion of farm acreage could not by itself entirely make up for the cut in Britain's overseas food imports. The British have also had to make major changes in the types of food they grow. Meat, for instance is rich in the proteins necessary to maintain health. But it takes a lot of grain to grow meat on the hoof. Seven pounds of corn fed to a pig will produce only one pound of meat, 85 per cent of the calorie value that the grain

had been preserved intact to supply the milk that the children and mothers of Britain must have.

As the number of livestock in Britain has decreased, the output of foods grown for direct human consumption has rapidly mounted. When I was in Britain, almost twice as many potatoes were being



# BRITISH AGRICULTURAL PRODUCTION



grown as before the war. Production of other vegetables had almost doubled, and wheat was up two-thirds. Potatoes and bread made from whole wheat are not as interesting foods as beef and pork, but for the British, meat in war-time is a luxury they can afford only in sharply reduced amounts.

The mainspring of Britain's food production achievement is the hard work and resourcefulness of the British farmers and the men in the Ministry of Agriculture. These gains could not have been made, however, without the aid of seeds, fertilizers and farm machinery from the United States. Our super-phosphates have made it possible to get good crops from the many acres of marginal land that would otherwise be almost useless. Although we have sent less than 2 per cent of our farm machinery production to Britain, the tractors and other implements which this represents have played an important rôle there.

Tractors are in large part government-owned, and are shifted about constantly from farm to farm as they are needed. Just before I left Britain, the Ministry of Agriculture launched a campaign for even more intensive use of farm machinery. Hudson had asked for another great increase in farm acreage, but the tractors in Britain were already being worked from dawn to dusk. Since few new tractors could be had, there was only one answer—those already on the job would have to be worked round the clock. The new, inexperienced farm workers would plough by day, the old hands after dark. But this raised difficulties in a nation which is blacked out every night.

The Minister of Agriculture and the Minister of Home Security studied the matter, made some experiments, and finally devised a method of giving farmers enough light without sending a glare into the sky visible to enemy bombers. Then the Ministry of Agriculture issued a long paper of instructions describing how to do this and how to organize a field during the day for ploughing after dark. It was a difficult assignment, but the British farmers managed it. Today many of our tractors in England are regularly being worked day and night, probably harder than any tractors have ever been worked before.

A tractor from the United States is a weapon just as a gun or a bomb is. It helps to feed British soldiers, and American soldiers as well; it helps to give British workers the food they need to go on making the Spitfires I saw coming off the assembly lines. Tractors are also weapons on the shipping front. In the first year alone a tractor will produce food seven times its own weight and the weight of all the fuel to run it for a year. It saves many tons of shipping space that can be used instead to send weapons to our allies. By that much, it speeds the day when we can transport to the battle-fronts the forces and equipment needed to strike the final blows at the Axis. At the same time the greater production of food in Britain that each tractor makes possible reduces by that much the amount of food that has to come from the food supply of the United States.

After I returned to this country, I followed the British food production programme carefully. Our own food supplies, although still by far the most plentiful in the world, are tighter than we have ever known them before. As Lend Lease Administrator, it has been my duty to make sure that our allies are making the most of their own resources before they turn to us for assistance.

I have been amazed to find that the British were able in 1943 to bring over a million and a quarter new acres into production in a country where, as I flew over it the year before, airfields and farms seemed to compete for every square yard of ground. This increase

was in addition to the seven million new acres brought into production between 1939 and 1943

Our advisers in Britain, however, warned me that the total production would probably be just about the same as in 1942, for in Britain, as in the United States, 1942 was that once-in-a-lifetime perfect year for the farmer. With average yields per acre, the British, even with their increased acreage, can probably just about hold their own. We cannot relax our efforts to fill that part of the gap between Britain's production and her needs that cannot be supplied from other sources.

The food that is raised at home and the food that is imported are turned over for distribution to Lord Woolton, the Minister of Food. He has broad powers over who shall eat what and how much in Britain. It is one of the most difficult jobs in the whole Government. When food is as short as it is in Britain, no one must have cause to feel that he is getting less than his rightful share. Faced with this problem, Woolton has distributed British food so fairly that his Ministry, I was told several times, is one of the most popular in Britain. A former business man from Liverpool, Woolton is engaged now in the mammoth business of feeding a nation at war out of a larder that is very lean.

In the old office building that now houses the Ministry of Food, Lord Woolton told me the story of British food distribution. A large, handsome man with a ruddy face and grey hair, he spoke bluntly and earnestly of his problems and his difficulties.

He was proud that he had been able to manage Britain's food supply so that there had been no serious deterioration in the health of the British people since the dark months after the fall of France. He had been able to do it only because all Britain's food is pooled in one common pot—the food raised at home, the food from other countries and the ten per cent of the food that comes under Lend-Lease. The Government sells this food to the wholesalers, often below cost. Wholesale and retail price margins are rigidly controlled so that even those with the lowest incomes can get their fair share at a fair price.

Woolton emphasized again and again, however, a fact which our own experts have also stressed to me after their investigations in Britain. Although the British people were eating enough to supply their minimum needs, their health reserves were very low. They were living so close to the margin that any further cut in their food supply would dangerously damage their war production effort and weaken their fighting power.

I found that, at first sight, the British diet is deceptively good. In terms of mere weight, the British people are probably eating about as much food today as ever. But the types of food are very

different. Gone are most of the meat and eggs and butter. Today about two-thirds of the average British meal consists of potatoes, bread, and such vegetables as cabbage or brussels sprouts and carrots. The pile of food on a British plate may look the same size as before the war, but the food that is there is not only monotonous, it has less food value.

Eggs are today a great luxury. During the first part of 1942, the average person got just three eggs a month. While I was in Britain, production dropped off and the ration was reduced to two a month. The normal American breakfast plate of fried eggs became something the average Englishman could enjoy only at one meal a month.

Just about three weeks before I went to Britain, however, the first packages of Lend Lease dried eggs had arrived. At first the housewives of Britain were a little suspicious of this yellow powder that looked so little like real eggs. But they soon learned how to use it, and as the weeks went by, the egg powder became more and more popular.

It is distributed in five-ounce packages, just a little smaller than an ordinary five-cent box of kitchen matches, each of which contains the equivalent of a full dozen eggs. Before the year was out, each person in Britain had received three of these packages—six dried eggs a month to add to the two fresh eggs. They could not be boiled or fried, but they could be used for a pudding or a cake, or even turned into passable scrambled eggs or an omelette, and the British people were deeply grateful for them. We have continued to send dried eggs to Britain—almost 200 million pounds of them by June 30th, 1943.

Lend Lease shipments of milk, first in evaporated form and later dried in order to save more shipping space, had started much earlier, in the spring of 1941. During the winter months it takes all the milk Britain can produce to feed the babies, the young children, the mothers, and certain special classes, such as invalids and wounded soldiers. During the summer, of course, milk production rises, and when I arrived, it was up far enough so that rationing could be temporarily suspended. But shortly after I left, when autumn began, the average consumer was back to three pints a week. By the winter, he was back to two pints a week again. Without Lend Lease powdered milk, many Britishers would have none at all. By June 30th, 1943, we had sent 250 million pounds of it.

The heart of the English diet has for many years been meat. But now the British have had to learn to get along with much less. The average ration allows about 25 cents worth of fresh meat a week, with four ounces of ham or bacon and two ounces of canned meat added. To make things more serious, there is much less chicken

# BRITAIN'S FOOD SUPPLY

Imported  
from  
U.S.A.

Raised at home  
and imported from dominions, colonies, etc.



available, and the fresh fish supply, because of the war at sea, is well below the pre-war catch. We have been able to send a good deal of pork and a very small amount of beef, but this has been far from enough, even when added to the meat shipped from Australia, Canada and Argentina.

To compensate in part for the lack of animal protein, the British have relied principally on cheese. Even this has been scarce, and in early 1942 the ration had dropped to only three ounces a week. But by the time I arrived, Lend Lease shipments of cheese were up and the ration was eight ounces. We were helping to make up for the serious meat losses in the British diet. Indeed, of all the cheese eaten in Britain during that year, we supplied a third. We have also sent a lot of dried peas, which are high in vegetable protein and some canned fish.

Lend Lease food, however, supplies only about ten per cent of the food value needed by the British people. Grain and meat and other foods come from Canada, Argentina and South Africa, and from Australia and New Zealand, in many times the volume of food shipments from the United States. Even with these shipments increased home production, Lend

...e, have first call. Then since there is not enough food for everyone else to get a really complete diet, special provision has to be made for people whose work

demands more energy than the average. Thus, when Woolton raised the cheese ration to eight ounces while I was in Britain, workers in heavy industries were given a pound. Seamen on shore-leave are also given extra heavy rations. Canteens have been set up in the factories so that war workers on long shifts can obtain hot lunches.

The children of Britain and their mothers are proud for to the best of . . .

children E . . .

people are doing almost without. On a trip round London that Lord Woolton planned for me, the first place we visited was an Infant Welfare Centre operated under the Ministry of Health. The doctor in charge proudly showed me the Lend Lease concentrated orange juice and cod liver oil which was being distributed there. To those who could not afford to pay, it was given free. Those who could were expected to pay a fee to help bear the cost of distribution.

After looking at the Infant Welfare Centre and inspecting several food storage warehouses, we went on to a "British Restaurant" for lunch. These restaurants have been set up all over Britain by the Government to make certain that everyone can get a wholesome meal at the lowest possible cost. For one shilling which amounts to about twenty cents in American money, we had a plain but excellent lunch.

After lunch, we stopped by a grocery shop where I looked at the goods on the shelves and had a talk with the grocer about food supplies and the rationing system. Then we went on to a railway depot on the Thames River where Lend Lease food unloaded at Southampton was being transferred from goods wagons on to barges to go up the rivers and canals for distribution farther inland. Many women were working on the docks. Bags of flour were being rolled along on little hand trucks by women, some of whom must have been at least fifty years old. I saw a young woman operating a mammoth electric crane which was transferring large boxes of food from the goods wagons directly on to the waiting barges.

As I stood watching the heavy boxes of cheese and dried milk wing over the dock, out over the river and down on to the barges below, I was happy that I had some small share in making this food available to the British soldiers and people.

I had myself seen how spare the British diet was. In the restaurants where I had eaten, the food was good, but it was always plain and there was never an abundance of it. At restaurants I had seen on the menu the notice "Meal may not exceed 5/- per head." Five shillings is the equivalent of one American dollar, and no restaurant or hotel may charge more for the food itself.

It is Lord Woolton's way of making sure that people who eat in restaurants do not get more than their share of the nation's food.

I had also eaten the so-called "National Loaf," a coarse dark bread, which is the only type that one can bake in England today. I had seen how little meat there was. I knew that the British were on a minimum diet.

I thought of how small a cut the fraction of our food supply that goes to Britain was making in our own diet and of how great addition it was to the lean British diet. Although it might be small in volume, I knew that it concentrated a lot of food value in little shipping space, and that in terms of energy for soldiers and war workers it was a weapon for victory.

#### CHAPTER XXIV

### A VISIT TO WAR TIME BRITAIN—III

At midnight on July 25th, 1942, I was standing in the middle of a great open field in Lincolnshire, England, on the edge of a mile-long runway. No lights were visible except two lines of flares, little pin pricks of light which marked the edges of the pavement. But the moon was almost full, and I could make out far off to my right at the end of the runway a line of massive black shapes. The low, dull hum from the end of the runway gradually grew louder. Suddenly, it turned into a thundering roar, and a moment later, I could see one of the great black shapes racing towards me. As it shot by with a terrible rush of wind, I could see for an instant the young face of the pilot lit up by the glow from his instrument board. The plane seemed to struggle to get off the ground. Slowly its wheels lifted from the runway. A British Lancaster—8,000 horse-power, seven men, and 8 tons of bombs—was on its way towards Germany.

A minute later, another thundered by and took off, then another and another. Fourteen great black planes were soon in formation overhead, circling to gain altitude. The roar from their motors died away, and then they disappeared into the south-east towards the Continent. I stood looking after them until I could not even imagine that I heard their motors.

It was the climax of a long and absorbing day. It was the event that drove home the true significance of the many things I had seen and discussed. I had left Hendon Airdrome just outside London, early that morning with Major-General Walter H. Frank and two members of his staff, and with Colonel George A. Green

and Charles Noyes from the Lend-Lease Mission. In a Lockheed Electra we flew to the west coast of England over a countryside where every acre of ground seemed to be taken up either by farms or by airfields.

In a little over an hour, we saw in the distance the heavy brownish surf of the Irish Sea. In the middle of the flat farm land below us were the runways of a great airport. As we circled down, I could see that it was still under construction. Men were at work on the runways, which appeared to be designed for the largest bombers, and on the big steel and concrete hangars that were scattered about the field.

When we landed, a young and enthusiastic British civilian greeted us. He introduced himself and told us he was the resident engineer on the job. He seemed very proud to welcome us, for we were inspecting an airfield built by British labour with British materials at British expense which was to be turned over, when finished, to the United States Air Forces. It was British Lend Lease to the United States, or, as we have come to call it, Reverse Lend Lease.

With the young engineer we rode round the airfield in one of the buses that brought workmen out from town in the mornings. The runways were almost finished, the steel framework for the hangars was in place, and workmen were getting ready to pour the concrete floors. Then we drove out to the dispersal points for the planes and on to the dispersed camps for the men.

There were six camps in all, scattered within a half mile radius of the field—near enough to be convenient and yet far enough away to be out of serious danger from enemy raids. Instead of the Nissen huts, which one finds today all over the world where American troops are stationed, brick quarters were being built for the American pilots and ground crews. The whole project would cost between a million and a half and two million pounds, the engineer told us. In another ninety days it would be finished. A single piece of paper would be signed by an American officer, and our Air Forces would move in to take over a completed airfield and repair base.

We stayed for about an hour, and then got aboard our plane again. In fifteen minutes, we were circling over an even larger airfield. As we descended, I was startled to see what looked from the air like grass-covered hillocks turn suddenly into great modern steel arc-domed hangars. The roofs were completely covered with sod.

When we landed, both American and British air officers met us. This was a field which had been built and used by the British, but was now in the process of being turned over as a going air base to the United States. The R.A.F. and the Coastal Command were



still using it while the take-over progressed. We saw many of British planes parked about the field and in the hangars, but also saw, with the British insignia painted on them, American F1 Fortresses, Baltimores, and Marylands.

I asked whether any of them were Lend Lease planes, but of the officers seemed to know. There was no way to tell, from the planes themselves, which had been lend leased to Britain and which the British had bought from us for cash. As I thought over, however, I realized that this made little difference. The planes were here on the job—that was the important thing.

As we were taken about the field, I saw what an enormous installation it was. It covered over 1,000 acres. Two thousand five hundred army men and 5,000 civilian mechanics were needed to run it. It was a major air base. We went through the long rows of buildings that housed all the machine shops, the engine shops, the assembly shops and the repair shops that go to make up such a base. Among the planes having their engines overhauled or new guns added, we saw again American types as well as British. The familiar shapes of Baltimores, Bostons, and Marylands were there being prepared to return to the fight. The insignia on their wings were all British. In a few weeks, other planes of much the same types would be in these shops. But instead of the R A F circle, the insignia on their wings would be the white star of the United States Army Air Forces.

With American officers, we visited the new office building which the British had built for them and the new mess hall for the men. Then we went to the officers' mess and sat down with about fifty American airmen. As we ate lunch, one of the officers confided to me that when he came over he did not know whether he would be able to work with the British or not. "But living side by side with them this way," he said to me, "you get to know them, and they are real guys. We are getting along very well."

As we talked over the transfer, I could see how important this "getting along very well" was. They were trying to keep the air port functioning as an active air base during the take-over period. A detailed schedule had been drawn up so that one group of British air force men would leave just as the corresponding group of Americans arrived. It was a tremendously complicated business and it could not possibly be managed without that ability on both sides to "get along." Later Colonel Green told me that one of the English officers at the field had said practically the same thing to him. "This whole business of taking over the airfield is going off much more smoothly than I had ever expected," he had confided to Green. "Your American officers are working with us wonderfully."

I realized that the rubbing of elbows which the American newspaper man had spoken of while we were waiting between planes in Ireland was just as important between the colonels as between the privates.

After lunch, we rode round the field and saw British workmen extending the runways so that they could handle our largest four-motor bombers. We saw where they planned to put up 500 Nissen huts the following month to accommodate the Americans who would be arriving. Then, as we passed the door of one of the hangars, we saw a group of American soldiers. With American lorries and tractors, jeeps, beeps and trundle buggies, they were busy unpacking American Air Force equipment and stowing it away inside the hangars.

We stopped for a while and watched them. It would be difficult for one who has not travelled outside the United States during wartime to realize what it means suddenly to meet thousands of miles from home a group of American boys unloading crates marked "Brooklyn, N Y."

Lend Lease had taken on a new meaning when I saw American aluminum being made into Spitfires or American food being distributed to British children. Reverse Lend Lease now became alive as I saw the familiar faces of these American men who were living in quarters the British had built and who were provided with mess halls, water, lights, and even received some of their food out of the slim British stores.

General Frank and the other officers decided to stay at the airport to discuss the details of the take-over. Colonel Green, Noyes and I, however, had a date that evening at an R A F air base in Lincolnshire, on the opposite coast of England. We got back in our plane and in forty minutes went from the Irish Sea to the North Sea. As we neared the R A F base the abundance of air ports fooled even our British pilot. When we landed, an officer came out, looked us over with a puzzled expression, and then asked, 'Is this a social call?'

He had a right to be puzzled, for we were at the wrong airport. It was an easy mistake to make, however, for the airport where we were expected was just three miles away. We were in the air and down again in five minutes. An R.A.F. group captain

action that night.

We went first to the officers' lounge. The large room was filled with officers drinking tea and reading, talking and playing cards. Many of them seemed to be only eighteen or twenty years old.

They looked like college boys. The room was quiet and the boys seemed relaxed, but under it all I felt the tension of these youngsters who would be soon flying great bombers over the Continent of Europe. It was as if I were seeing a scene in a play which was being consciously and deliberately under-played.

We sat and talked with the senior officers for a while. From time to time the younger men walked over in groups of two or three to say hello. They were friendly and very polite, but they were also confident and unembarrassed. There was little talk of their experiences on air raids; they either casually passed the time of day with us or talked about American planes. They wanted to know about all our latest models and how fast they were being turned out.

After tea, some of the officers showed us about the base. We saw the large field where the stocks of bombs were stored in open pits. They ranged all the way from small incendiaries to two-thousand and four-thousand pound blockbusters. Then we saw the bombs being swung into the bays of the Lancaster bombers and ammunition being loaded into the machine-gun belts. With one of the officers, we went through a Lancaster from the bombardier's seat to the cramped quarters of the tail gunner. "The finest bombers in the world," one of the young pilots told me with pride. There was no need, I could see, to worry about morale.

At 6 30 p. m. sharp, we were shown into a room with great maps and a blackboard at one end. Fourteen long tables were in the room, and at the head of each sat a pilot surrounded by his crew. When we entered, the room was silent. The door was locked after us, and the officer who was with us whispered to me that we were the only people in the room who were not going on the flight that night.

A young Wing Commander, smoking a pipe, stood up in front of the room. His name was Guy Gibson. "The next year he was to lead the raid that smashed the Möhne and Eder dams.

"Men," he said, "the objective tonight is Duisburg. Is there anyone here who hasn't been to Duisburg before?"

Two men half raised their hands.

"I do not need to remind you again," the Wing Commander continued, "that you must take no notes and make no marks on your maps. There must be no information to fall into enemy hands." Every man in the room listened to him intently. He gave them the time of departure, the height at which the planes would fly, the time they were due over the city, the direction in which they would come in, the targets they would look for, and the route they would take coming home.

the city. The chief navigator got up and explained the route to be followed and the guides the navigators would find helpful. The targets were described minutely. At the end of each lecture there was a chance for questions. Some of the men asked to have a few details repeated, for they had to keep all these instructions in their heads. A few more questions, and the briefing was over.

With British officers and American airmen who were stationed at the airfield as observers we had dinner. Then we were shown detailed pictures of the damage that had been done to Düsseldorf, Cologne, Bremen and other cities by the R.A.F. As the evening grew later, we went to the control room to study the maps and to see the system by which planes are signalled to take off or to land.

Shortly before midnight we walked out on the field to the edge of the runway. While we stood there, the planes with the crews we had seen such a short time before thundered by one by one and took to the air. As I watched them go into formation and disappear into the darkness towards the Continent, I thought of the strange paradoxes in this United Nations war which Lend Lease and Reverse Lend Lease are helping to resolve.

The planes we had just seen take off were British Lancasters made in British factories. But into such planes went American aluminium and other raw materials even in some cases American engines and instruments. The British were using these raw materials and parts from the United States to strike hard blows at our common enemy. Under a system of loans or credits of money the British would have owed us a fixed amount in dollars and cents for them.

Earlier that day, we had seen American pilots who had come to Britain to fly American planes in raids over the Continent. They needed airfields, barracks, mess halls, repair shops and all the other installations and equipment that large air operations require, and we had seen two great airfields that they would soon be using. One was completely new, the other was an R.A.F. airfield and repair base which was now being turned over to us. Both were

straight commercial deal we should have owed the British in pounds and shillings for all this construction and all the equipment which we did not bring with us from the United States.

I thought how strange a form of economics this would be. When

the British furnish men to fly an American plane against our common enemies they would pay us dollars for the use of the plane. When we send men to battle in the air against our common enemies, we would have to pay the British for the airfield construction and the repair shops which we use.

Whatever debts are due in these circumstances, it seemed to me, they are due first of all for the men who are valiantly risking their lives in battle, rather than for the equipment they are using. The value of a fighter pilot battling five miles above the ground or of a bombardier dropping his load squarely on the target can never be measured in pounds and dollars. Nor can we evaluate a British raid on Bremen and an American raid on Kiel, and then strike a money balance between them.

The costs of war are more than money spent. They are also the human lives, the blitzed cities, the suffering and the courage. When the final accounting is made among the United Nations, many things must be considered besides dollars and cents.

I had caught that day on the airfields in Britain a glimpse, it seemed to me, of the true nature of the United Nations war. Each nation was putting into a common war chest all the equipment, the munitions, the war supplies and the technical skill it had at its command. Under a common strategy these were being used so as to bring to us all as quickly as possible a common victory.

About 3.30 a.m., the roar of motors began to sound overhead. We had gone inside to talk with the men who were waiting up for the bombers to return. We went out onto the field again and, looking up, could see six bombers circling overhead waiting to land. As they came in one by one, others arrived and began to circle. Several came back badly shot up. One was so riddled it seemed a miracle to me that it could have returned at all, but none of the crew was injured. Two planes were missing.

As the planes pulled off the runway, the pilots and their crews got out and immediately went into a little wooden shack on the edge of the field to be interviewed by the intelligence officers. They came in, throwing their helmets and fur coats in a heap on the floor, and each man was given a strong cup of hot tea. Then he had to tell in detail all about the flight—how high they came in over the coast, from what height they had released their loads, what fires they had seen, how many enemy airplanes they had met, how heavy the flak had been. As we stood and listened to them, they seemed tired but relaxed. They joked with each other a good bit, and put plenty of colour into the stories they told to the intelligence officers.

By the time the interviews were over, it was daylight. We ate breakfast with the officers, and then left in our plane for London. I was tired, and went to bed as soon as I got back to town. That

afternoon, I was busy with correspondence. When I finally went out for a walk it was late in the evening. I stopped at a news stand and bought a paper. In the middle of the front page was the headline "R A F BOMBS DUISBURG".

Several days later, I discussed with British officials in London the basis on which they were giving aid to us. Sir Kingsley Wood summed it all up very simply. "Our ideal is that the people who are concerned with supply for the United States forces here should have only one question to bother about—which is the best source of supply? If it is Britain, reciprocal aid is automatic. We pay the bill."

A month after I had visited the air bases in Britain, I saw back

#### CHAPTER XXV

### LEND-LEASE IN REVERSE

JANUARY 26th, 1942, was a typical raw, grey day at a well known port in Northern Ireland, but the people in town knew that something was up. Down at the water front the Stars and Stripes had been hoisted. Near by stood the Royal Ulster Rifles band. Prime Minister Andrews of Northern Ireland, Air Secretary Sinclair of the British War Cabinet, and other high Government officials were waiting on the pier. R A F planes kept up a steady patrol overhead.

Out of the misty drizzle in the harbour appeared the dark shapes of ships moving slowly in—first British and American destroyers, then big converted passenger liners. The destroyers swung aside as tugs took the first liner in hand and manoeuvred her into her berth. The men who crowded along the dock railings wore the uniforms of the United States Army.

As the big ship was made fast, the band on the pier struck up "God Save the King," and followed with "The Stars and Stripes Forever" and "The Star Spangled Banner." Down the gang plank, right behind Major General Russel P. Hartle, A U S, walked Private First Class Milburn Henke of Hutchinson, Minnesota, the first American soldier to land on European soil in this war. Then the rest of the men piled ashore. The first American expeditionary force to be sent directly to the European war theatre had safely completed its journey across the North Atlantic.

After they landed, our soldiers moved into barracks and bases already prepared for them. Some of the quarters had been built with the help of Lend Lease funds as a part of the Londonderry naval base project. Others were entirely British built. British Army units had made everything ready for our men to move in. When I visited Londonderry in July 1942, it had been completely taken over by the American forces.

The arrival of this contingent of American troops in Northern Ireland marked the beginning of what has since become a world wide programme of Reverse Lend Lease aid—a vast programme of supplies and services for our forces abroad made available by our allies without cost to us.

In the first weeks, this aid to our soldiers in Britain, like the barrage balloons and anti aircraft guns sent from Britain to the United States at the time of Pearl Harbour, was provided without any formal agreement. Under the pressure of events, Reverse Lend-Lease went into action before the formalities could be worked out. Then, late in February, the Master Lend Lease Agreement with Great Britain set down the over all policy.

"The United Kingdom," it stated, "will continue to contribute to the defence of the United States of America and the strengthening thereof and will provide such articles, services, facilities, or information as it may be in a position to supply." Besides continuing to

translated into actual working arrangements. As more American forces reached the British Isles, procedures were worked out under which we could obtain equipment and supplies that were available in the United Kingdom merely by going to British procurement officers and asking for them. Headquarters supply offices of our armed forces were set up in London in close contact with the supply organizations of the British Army, Navy and Air Force. Out through the country, wherever we took over an air base, a naval base, or a ground army centre, British supply officers were attached to our contingents to make sure we got promptly any British supplies we needed.

In an exchange of notes between Secretary Hull and Lord Halifax on September 3rd, 1942, the full scope of Reverse Lend Lease was defined. "When it is found that they can most effectively be procured in the United Kingdom or in the British Colonial Empire," the notes provided, "the Government of the United Kingdom will provide the United States or its armed forces with . . . military equipment, munitions and military and naval stores" and "other supplies, materials, facilities, and services for the United States

forces" The British also agreed to provide "supplies, materials, and services needed in the construction of military projects, tasks and similar capital works required for the common war effort in the United Kingdom or in the British Colonial Empire" Outside the Empire, the British agreed to pay for military construction for our forces whenever they were the best source of supply

During the second half of 1942, the size of our forces in the British Isles grew very rapidly as we prepared for the North African invasion and built up our Eighth Army Air Force for its part in the bombing of Germany Reverse Lend Lease grew with equal rapidity, although neither the people back in the United States nor even the American boys in Britain, I think had any conception of its real extent.

The reasons why Reverse Lend Lease tended to be overlooked are simple The fighting weapons of American forces are produced almost entirely in American factories If the British were making tanks for us and turned over 3,000 of them, it would be easy for an American soldier to count them and say, 'The British are certainly giving us a lot of stuff,' just as we say it about ourselves when we send 4,000 planes to Russia But we make all the tanks and practically all the planes, guns and other weapons for the American forces, and we make many of them for the British forces in addition It is true, of course, that the British have given us hundreds of Spitfires and other fighter planes, together with quantities of bombs and artillery But these are the exceptions When we see our men in the British Isles almost all of them have American guns, tanks and planes It is natural to ask What can Reverse Lend Lease really amount to?

The answers to that question lie in these fundamental logistical facts armies do not just miraculously appear on the fighting lines with their tanks and guns, airplanes are not the only equipment an air force needs, and a navy does not fight with ships alone Guns, tanks planes and warships are the striking power, but they are only a part of the business of war

Reverse Lend Lease begins, as a matter of fact, as soon as our men leave this country for Britain A large proportion of our troops have crossed the Atlantic on British transports and the British Treasury has paid the charter hire The escorting cruisers and destroyers have been assigned principally from the British Navy, for the bulk of our own naval strength has been in the Pacific

When our troops reach the British Isles, they find quarters and operational facilities already prepared for them The completely equipped airfields, such as I saw in the summer of 1942, the barracks, the mess halls, the canteens, the warehouses, the offices and



hospitals that the British have built for us are absolutely essential to our campaigns in Europe. Instead of our spending American money to build them, the British are spending theirs. The total construction programme for United States forces in the United Kingdom will cost the British an estimated \$600,000,000 when completed. And this does not include any of the already existing air bases, barracks, and other facilities which have been turned over to us.

It is right that the British should use their own money for these facilities. That is the meaning of Lend-Lease—each of us puts what he has into winning the war. It does not matter who uses it against the enemy.

Carrying our troops and guarding them across the ocean, and providing all the buildings and other construction we need in Britain are only the beginning of Reverse Lend Lease. The rest consists chiefly of ten thousand and one bits and pieces—a grand mixture of little things and big things in supplies and services. Many of them we never hear about, because they are not the dramatic elements in war. Yet they are the day-to-day essentials without which we could not put our planes in the air, send our armoured divisions into battle, or keep the ships of our Navy in action.

In a British port, the ships of our Navy receive the same services and stores as the Royal Navy, without any payment by us. Our ships are supplied with anything they need which the British have available, if they are battle damaged, they are repaired in British naval bases. This is true not only in the British Isles themselves, it happens in British ports throughout the world. Our Navy receives oil free of charge from British commercial suppliers all over the Empire, and the British Treasury foots the bill.

Similar supplies and services are given to our merchant ships. In the British Isles a large fund of pounds sterling has been set up as a bank account on which any American ship may draw for its needs. When the fund runs low, the British Treasury replenishes it. We receive, in short, the same shipping services on the other side of the ocean under Reverse Lend Lease as we make available under Lend Lease on this side.

For our Army, the list of supplies is endless. The air bases, the army camps, the hospitals and other buildings are usually turned over to us with much of the necessary equipment already there—machine shops, office furniture, medical equipment, mess tables, beds, and thousands of other items big and small. Sometimes it is very difficult to pick out what is Reverse Lend Lease because the British equipment has become so inextricably mixed with our own.

Churchill Hospital near Oxford, for example, is one of many which the British have provided for United States forces. One of our men asked Lieutenant Colonel F W Rousselot, who was stationed there, whether his X-ray equipment was provided by the British under Reverse Lend-Lease or came from America. "Well," the Colonel said, "the X-ray itself is American. But the plates are all British, and the whole adaptation and installation was done by British workmen. It's pretty hard to say which is which, but what does it matter anyway? We're here because we don't like Hitler any more than the British do."

There are thousands of other supplies and services as easily overlooked but just as essential as the British plates and installations in the X-ray equipment at the Churchill Hospital.

Almost all American forces in England are on regular United States Army rations, and we also send from this country some of the food that the British themselves need in order to keep going. It is natural to suppose, therefore, that our men in the British Isles live only on food shipped from home. But that is not the fact. After all, we send the British only 10 per cent of their food—the things they are particularly short of, like canned meat, powdered eggs and dried milk. The British themselves are doing a tremendous job of raising food on their own land, and they are giving some of this food and some they get from other parts of the Empire to our troops at the rate of over 100,000 tons a year under Reverse Lend-Lease. This consists mainly of potatoes, flour, bread, fresh vegetables, sugar and salt, but many other items, such as coffee, cocoa, spices, spaghetti and cereals, are provided.

Outside the regular run of Army supplies, Reverse Lend-Lease covers a multitude of little items that help make life easier for our soldiers in Britain—thousands of bicycles requested by our Air Force so that the ground crews can get around the big air bases faster, radios for our men to listen to American programmes, all the printing expenses of the *Stars and Stripes* and *Yank*, musical instruments for soldiers' swing bands, a large part of the supplies for our post exchanges, athletic equipment for our soldiers, big recreation centres in British ports for American sailors and merchant seamen.

Norman Davis, Chairman of the American Red Cross, told me that the British have given over ten million dollars of equipment and supplies to our Red Cross units serving American soldiers in Britain—almost everything from fully equipped canteens and club-mobiles, converted from British passenger buses, to coffee blended American style and doughnut flour.

There are also countless services performed for American troops in Britain that can be easily overlooked. American Rangers are

given special training at British Commando centres, American Air Force gunners practise at British gunnery schools. Every time an American soldier is moved from one point to another in the British Isles, it is the British Government and not the United States Army that pays for his railway fare. This is also true of all the freight bills for moving out Army equipment in Britain. Every time an American soldier turns the lights on in the barracks, the British Government meets the electricity bill. Every official telephone call is billed to the British Treasury. The coal bill for heating the barracks in winter is paid in the same way. When hundreds of thousands of men are involved, all this mounts up very fast.

The first over all picture of Reverse Lend-Lease in Britain was given to us in Washington by Lieutenant-Colonel George A. Spiegelberg, recorder of the United States Army's General Purchasing Board in the European theatre, who came to Washington to testify during the Congressional hearings on the extension of the Lend Lease Act in January 1943. He brought with him huge bound volumes which contained a complete record of Reverse Lend-Lease in the British Isles from June 1st to the end of December 1942. There were literally thousands of pages, and every page had a long list of supplies which had been furnished to our forces.

For the House Foreign Affairs Committee he picked out a few categories as samples. Beginning with "A," the Engineer Corps list ran through such items as asphalt, batteries, blackout cloth, cement, coal, and so on down through the alphabet to wire—barbed wire, sewing wire, rope wire and woven wire. For the

Quartermaster Corps the list began with stores, bakeries, bat, canteens, and tents, towels and began with aerials and ended with wave meters. Ordnance began with ammunition and ended with torpedo tubes.

The Air Force received not only airplanes but parachutes, dinghies for forced landings at sea, new plexiglass noses for bombers, de-icing equipment, clay pigeons in astronomical numbers for gunnery practice, high altitude heated flying suits, and the famous British steel vests for fliers, made by a company that was making swords in the days of Queen Elizabeth. Then there was a long "Miscellaneous List" as well, with such items as smoke generators, acetylene, eye shields and gas detectors. Some of the orders were in the hundreds of thousands, others were for a dozen or less.

Major Spiegelberg brought back the first full list of the Reverse Lend Lease supplies that we had received in Britain and an over all

estimate of the amount of shipping that would have been required if we had brought them all from the United States. It added up to 1,121,786 ships' tons the equivalent of over 370 full shiploads. This figure did not include any of the construction materials the British had used in building airfields, barracks, and other facilities for our forces which came to more than another million and a half tons. These were impressive figures and they have since gone much higher.

We are receiving Reverse Lend Lease in many other parts of the world—in Australia New Zealand India the Fijis and other Pacific islands Africa the Middle East, and elsewhere. I have told the British story in such detail only because it is there that Reverse Lend Lease has been most extensively developed. The same willingness to make everything possible available to us with a similar saving of American dollars is to be found in other allied countries where our troops are stationed. We have signed special Reciprocal Aid Agreements with Australia the Fighting French and later the French Committee of National Liberation in North Africa, with New Zealand Belgium and the Netherlands as well as with the United Kingdom. Other agreements are being negotiated as more of our troops are sent to other parts of the world.

Even Russia and China which have suffered tremendous losses fighting on their own soil have given us war supplies and services. The Chinese turned back to us as a gift all the P-40 pursuits which remained of those they had bought from us and they have turned over petrol from their precious reserve stocks to our 14th Air Force in China. We have had no troops in Russia but when American vessels have put into North Russian ports the Soviet Union has met all their expenses—fuel food and other ship stores medical care and any needed ship repairs.

In Washington, we have from the beginning kept as full records of Reverse Lend Lease as we could obtain but the records have necessarily been incomplete. Of many transactions it is almost impossible to keep records. In England for example the R A F and the U S A A F may occupy jointly the same air base. When that is the case, the British keep track of the supplies issued to the base as a whole only. There is no book keeping separation between supplies eventually used by men who are in R A F uniforms and those used by men in U S A A F uniforms.

We face the same difficulty to an even greater extent in other active theatres of war. In North Africa Sicily and Italy, for example, where American British French Canadian and other allied forces often operate from the same bases their supplies are pooled and shared purely on a basis of battle needs. We can tell

how much each country puts into the pool originally, but what happens from then on we can only estimate. Soldiers in battle do not bother with the niceties of accounting.

Another difficulty with valuation has been the variety and geographical extent of Reverse Lend Lease. Outgoing Lend Lease supplies from the United States flow from a central source, requests from other Governments all clear through Washington, supplies go out usually a shipload at a time.

Reverse Lend Lease, on the other hand, is delivered to us in tens of thousands of small lots at hundreds of different bases scattered over the world. Supplies are often given to our forces out of stocks on hand in the field. Copies of the Reverse Lend Lease requisitions flow slowly into our various theatre headquarters, and eventually the records come to the War and Navy Departments in Washington. The process inevitably takes months. When Reverse Lend Lease supplies or services are provided during battle conditions, there may never be any record at all.

In spite of all these difficulties, I felt, after listening to the reports of men who had come back from the theatres of war and after seeing the volumes of lists of supplies pile up in Washington that we must obtain an estimate of the Reverse Lend Lease we are receiving even if it were not absolutely complete. Brigadier General Wright, head of the International Aid Division of the War Department, was in complete agreement. We wanted to see a figure in dollars, and we were certain that both Congress and the American public would also like to see such an estimate. It would obviously not be as large as the figure for Lend Lease aid, for we could not expect to receive an equal volume of supplies from countries which had been in the fight so much longer than we had, whose industrial resources were not as great as ours to start with, and whose factories had in many cases been captured or blitzed. I had a feeling, however, that the estimate would show us to be receiving a great deal more under Reverse Lend Lease than most of us realized.

In Australia and New Zealand where a considerable part of the Reverse Lend Lease programme is operated more as it is in the United States, with definite amounts set aside in the Government budgets for mutual aid, we could total up the figures without too much difficulty. For the United Kingdom, with a war budget that makes no clear separation between what is given to our troops and what is given to their own, and with widespread pooling of common stocks with our forces in the four corners of the world, it was much more difficult.

I discussed the problems for some time with our own War and Navy Departments and with representatives of the British Treasury

in Washington. In June, the War Department instructed officers in the field to estimate the dollar value of supplies received under Reverse Lend Lease, and in July 1943, we sent Edward C. Acheson of our Reciprocal Aid Section to London to work with the British Government, the Army Service Forces and our Lend Lease representatives there in developing evaluation procedures. By autumn, we had a partial answer.

From June 1st, 1942, when Reverse Lend Lease began, the British Government had spent another \$56,900,000.

another 500 million dollars by the end of the year. The Indian Government up to the middle of 1943 had spent another \$56,900,000.

These figures do not include supplies and services provided for our forces by the British in North Africa, the Middle East and elsewhere outside the British Isles. The returns from those areas of the war have not come in yet.

When these figures are added to the \$247,000,000 in Reverse Lend Lease aid from Australia and New Zealand, it all adds up to a total of almost \$1,175,000,000 of aid given our troops by the nations of the British Commonwealth up to June 30th, 1943, besides an amount yet undetermined for Reverse Lend Lease in North Africa and other theatres of war.

It was also during the summer of 1943, after the British had completed dollar payments on most of their \$3,600,000,000 worth of pre-Lend Lease contracts in this country, that they agreed to extend the principle of Reverse Lend Lease to include many raw materials and foodstuffs shipped to the United States. Until then they had needed dollars in exchange to pay for supplies ordered from American manufacturers before Lend Lease in anticipation of their future dollar income.

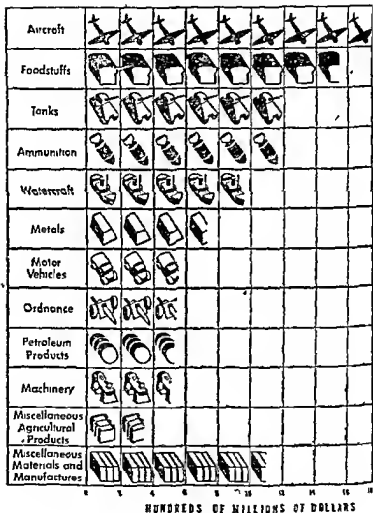
Now the United States will receive without payment from the United Kingdom and its colonies rubber, rope fibres chrome, asbestos, tea, coconut oil, cocoa and many other raw materials and agricultural products formerly purchased by United States Government agencies. Whenever British ships are used to bring these supplies to this country they will be carried free of charge. Similar Reverse Lend Lease agreements with other countries of the British Commonwealth covering raw materials and foodstuffs are being negotiated.

Nations is pledged to make towards common victory is set forth clearly in the Declaration of United Nations. "Each

# TOTAL GOODS WE HAVE LEND-LEASED

MARCH 1941 THROUGH JUNE 1943

EACH SYMBOL REPRESENTS \$200 000 000 WORTH OF GOODS



pledges itself to employ its full resources military or economic, against those members of the Tripartite Pact and its adherents with which such government is at war."

Our other allies have surely lived up to this pledge as well. Russia has been fighting on her own soil for two years, China for six. Both nations have sacrificed millions of lives and suffered the occupation and devastation of many of their greatest cities and millions of acres of their best land. Because we have given them more Lend Lease aid than they have given in Reverse Lend Lease aid to us, we do not say that we have done more than they have against our common enemies. We know that they are putting into this war every bit as much of what they have as we are.

It is all the same war. Who can say which of us has given most of what we had to give? We cannot measure their lives against our dollars, or their pounds or roubles against our lives. We cannot balance the cost of a ruined city against the cost of a thousand tanks, or the courage of the Underground in Europe against the courage of American boys in New Guinea and the courage of their mothers at home.

It would be impossible, indeed a sacrilege, to attempt to balance such a ledger. All we can ask now is that all of us—we and the other United Nations—put everything we have into winning the war in the ways that circumstances and our strength make possible. That is a combination which will balance out in victory.

## CHAPTER XXVI

### LEND-LEASE AND COMBINED OPERATIONS—I

IN the early hours before dawn on October 24th, 1942, the British 8th Army launched its offensive against Rommel's forces on the El Alamein line in Egypt. Its goal was the eastern border of Tunisia—1,500 miles away.

On the same day, a mighty task force sailed out into the Atlantic from the United States. Twenty-four hours later, two more task forces put to sea from the British Isles. There were 700 ships in these three fleets—aircraft carriers, battleships, cruisers and destroyers, transports and ocean-going landing craft packed with men and guns and tanks. It was the greatest single overseas movement of men and weapons in the history of warfare. Converging from points 3,000 miles apart, the expedition mingled inextricably the men, the equipment and the ships of two great nations. Its goal was French North Africa.



On October 24th, 1942, the forces of the United States, Great Britain and other United Nations began offensives from the west and from the east that within six months were to crush between them Axis armies totalling half a million men, clear all Africa of the enemy, and open the way for the conquest of Sicily and the invasion and surrender of Italy.

Behind the attack at El Alamein and the sailing of the task forces for North Africa lay many months of combined planning and preparation—in the Middle East, in the British Isles and in the United States. The building up of the 8th Army's strength for the offensive that finally smashed Rommel dated all the way back to the summer and autumn of 1941. It was then that American tanks and planes began flowing into Egypt, that we began development of the Trans African air route into a great aerial highway and undertook with the British to transform the whole Middle East into a tremendous supply base.

The North African expedition was first discussed in detail when Prime Minister Churchill was in Washington in January 1942. The final decision was made in July, and the detailed plans were worked out in London, when General Marshall and Admiral King went over to confer with General Eisenhower and the British High Command.

Neither the defeat of Rommel nor the occupation of North Africa would have been possible without the pooling of military leadership and fighting men, of supplies for the front and supplies to protect the rear, that continued over the course of many months. This is a story in which the Lend Lease and Reverse Lend Lease programmes and the unifying influence of the Lend Lease idea upon the development of our combined military operations have alike had an essential and significant part.

Eleven months before El Alamein, on November 18th, 1941, General Claude Auchinleck had launched an earlier offensive to drive Rommel back from the border of Egypt. In spite of the fact that the forces defending the British Isles were still short of equipment, Churchill had dispatched hundreds of British planes and tanks to Egypt during the summer and autumn of 1941. From the United States, we had sent many of our light tanks and some of the early General Grants. Hundreds of American bombers and P-40 Tomahawks had been dispatched either by sea or by the Trans African Ferry Route, which Lend Lease was then just beginning to expand.

With the help of this equipment the British, by January 8th 1942, had pushed Rommel all the way back to El Agheila on the border of Tripolitania. There they were forced to halt. In part, this was because the outbreak of the war in the Pacific created

many new demands for arms and men in other parts of the world. Meanwhile Rommel was reinforced. When he counter-attacked on January 21st, the British fell back on a defence line running south from the Tobruk area.

On May 26th, Rommel attacked again, and eighteen days later he lured 300 British and American made tanks into a trap and destroyed 230 of them. Tobruk fell, and on July 1st, Rommel reached El Alamein, deep inside Egypt and only 75 miles from the great British naval base at Alexandria. Axis radios confidently predicted the fall of Egypt, the conquest of the Suez and the Middle East, and a break through to the Indian Ocean.

But at El Alamein the 8th Army held. Fresh troops arrived just in time, and convoys sailed up the Red Sea with new equipment from Britain and America to replace some of the heavy losses. Now it was Rommel's supply lines that were stretched thin across the desert. Early in July 1942, he made a preliminary thrust at the El Alamein line, but was thrown back. He, too, had to wait for reinforcements in men and equipment.

During the next three months, the battle for Egypt resolved itself into a battle of supply lines. Victory would go to that side which could bring up men and materials with the greatest speed. It was a battle in which the Axis had the advantage of short sea supply routes only a few hundred miles across the Mediterranean from Italy and France. Supplies moving by water from Britain and the United States had to travel 10,000 to 12,000 miles round Africa and up the Red Sea, those moving by air from the United States had to be flown 9,000 miles via Brazil and the Trans-African Ferry Route.

In the end, we won the battle of supply. We won it partly because the enemy was so deeply committed on the Russian front that summer, partly because we had been able to do much more in the previous nine months to overcome the handicaps of distance than our enemies believed possible, and partly because we had assembled enough air strength to smash their own attempts to reinforce the Axis forces across the Mediterranean.

During the first nine months of 1942, thousands of American and British planes had flown the Trans African Ferry Route—fighter planes, bombers, and transports carrying personnel and supplies. Of the American planes, many were bought by the United States. The first American base in Egypt was the first base from which American planes operated in the Middle East. In the three months that followed, additional

personnel, heavy and medium bombers, and fighters came in fast to swell the ranks

Besides the bombers flown across Africa and the fighter planes which were shipped all the way round Africa and up the Red Sea, other fighters were sent by ship as far as Takoradi on the west coast of Africa, assembled there and then ferried the rest of the way across the continent to Egypt. In the critical weeks that followed the British retreat to El Alamein, aircraft carriers shuttled across the South Atlantic they were flew the

Flight deliveries of two-engine bombers from the United States, especially Marauders and Havocs, were also stepped up greatly between the retreat to El Alamein in June and the opening of Montgomery's offensive on the 24th of October. By that time, in addition to all the planes for the Ninth U.S. Army Air Force, we had sent from the United States under Lend Lease or by direct purchase more than 700 twin-engine bombers and nearly 1,100 fighters for the British and allied forces in the Middle East and British Africa.

Planes which could be ferried at least part way by air often arrived in a matter of days. But every tank and lorry and every piece of artillery for the 8th Army had to take the long sea trip round the Cape of Good Hope—seventy days from the United States and almost as long from Great Britain.

The 8th Army needed medium tanks badly. The American tanks shipped in for General Auchinleck's temporarily successful offensive in November 1941 had been mostly light 13 ton tanks, because our General Grants were just beginning to go into mass production. Though fast, the light American tanks had been badly out-gunned by the heavier German models. In 1942, the mediums began to arrive in large numbers. At first they were the General Grants, which were better than anything the British had before in Africa, but had the disadvantage of carrying their 75-mm guns in fixed side turrets.

Our improved mediums—the M-4 General Shermans with the 75's in revolving turrets—were coming off the production lines just at the time the 8th Army lost so much of its armour in the defeat before El Alamein. The decision was made immediately by the Combined Chiefs of Staff to send as many General Shermans as possible to Egypt, along with the first of our deadly 105 mm self-propelled anti-tank guns. When one shipload were taken without

manœuvres in the U.S.A. and rushed to Egypt to make up the loss at sea.

By October 24th, 1942, we had sent under Lend Lease or on British cash orders 900 medium tanks in all, including over 300 Shermans. We had also sent ninety of the 105-mm anti tank guns and 800 light tanks. Most of the light tanks were shipped before January 1st, 1942, and most of the medium tanks after that date. Along with the tanks, we had shipped 25 000 lorries and jeeps to give the 8th Army and its supply services the extra mobility needed for an offensive across the desert.

The increasing deliveries of American and British equipment to the Middle East in 1942 imposed enormous new burdens on the limited facilities of the Red Sea area. They would have been impossible without the work of United States Army and British engineers in developing the ports and in building roads and railways to improve communications between the ports and the front. Equally important were the repair and supply depots built through combined British and American efforts. In the latter part of 1941 and in 1942, dozens of these projects were undertaken for the defence of the Middle East by the British and by us in Egypt, in Eritrea and in the Levant States.

A large repair depot near Cairo was typical. There, in various stages of completion by June 1942, were a large airport, housing facilities for nearly 10 000 men, a 1 000-bed hospital, warehouses and many repair shops equipped with the tools needed to repair American planes, tanks, lorries and guns. Stationed there were a sizeable number of United States Army engineers and supply officers and skilled mechanics under the command of Major-General Russel L. Maxwell. These installations were constructed in part with Lend Lease funds and equipped in part with Lend Lease tools. In them thousands of soldiers and civilians were trained by United States Army technicians and American civilians to repair and service American tanks, lorries and ordnance. Some of the crews, when trained, were sent to front line repair depots, some were sent to India to train others in repair depots there.

Besides the provision of fighting equipment, there was another essential job to be done in support of the British, American and allied forces in the Middle East. That was to prevent famine and disorder behind the lines. In the main we fought our war with the Axis in this region across lands that belonged to other peoples, and our campaigns inevitably disrupted seriously their normal civilian life.

The area known as the Middle East is a huge one—larger than continental United States. There are 65,000 000 people in the

countries and territories of Egypt, Iran, Iraq, Palestine, Syria, Lebanon, Trans-Jordan, Saudi Arabia, Ethiopia, the Sudan, Somaliland and Eritrea. When the Mediterranean route was closed and the Nazis came down through the Balkans as far as Crete, the peoples of the Middle East lost many of the most important sources for the supplies they needed. They were cut off from all their trade routes except one—round Africa and into the Red Sea and the Persian Gulf—the same route through which our shipments of military equipment had to be funnelled. Most of the shipping to the Middle East and the available land transport there were needed first of all for the fighting forces.

For the peoples of the Middle East the resulting shortages were serious. Then in the summer of 1941, a terrible locust plague, the second in two years, swept across the whole area from the borders of India to the Egyptian Desert, and destroyed a large part of the grain crop. In the Middle East bread is literally the staff of life. With normal imports cut off, a great famine threatened to take tens of thousands of lives. Such a calamity would also interfere seriously with the military operations of the British and allied armies.

In the spring of 1941, the British had established at Cairo an organization called the Middle East Supply Centre. To it the governments of the Middle East sent their requests for essential supplies, and with this information a unified supply programme was developed to take care of minimum civilian needs for the entire area. All shipments of grain and flour, sugar, and fertilizers were imported under the control of the Supply Centre and then distributed according to the priorities of need among the various countries. To tide over the crisis after the 1941 crop failure, several hundred thousand tons of wheat were rushed in from Canada, Australia and other areas of the British Commonwealth, and some wheat was sent also from the United States under Lend Lease. These shipments staved off the threatened famine.

In March 1942, the United States became a member of the Supply Centre. The principal aim of the combined Middle East supply programme in which we are now co-operating has been to develop local production in order to reduce as far as possible the need for shipments from the United States and other United Nations—especially shipments of food. This has meant sending fertilizers, seeds and farm tools so that more grain can be grown locally. It has meant encouraging irrigation and local industry and the shifting of land from such export crops as cotton to wheat, barley, maize, rice and sugar. It has meant, finally, waging war on the locusts.

The war on the locusts has involved a series of campaigns in which squadrons of planes and fleets of trucks have joined to fight

a plague that endangered our security behind the lines, while Rommel's tanks threatened them in front. The campaigns against the locusts in 1942 were in full swing during the months when reinforcements for the 8th Army were being rushed up the Red Sea and across Africa. Breeding places along the Persian Gulf were reconnoitred, and Emperor Haile Selassie assisted the anti-locust brigades to track down the breeding grounds in Ethiopia. In Saudi Arabia, King Ibn Saud offered his co-operation. Planes sprayed the swarms with poison dust from the air, while the lorry convoys spread poison mash ahead of the advancing locust armies.

The campaigns in 1942 did not result in complete victory, but they did save hundreds of thousands of tons of grains and probably represented greater progress against the locusts in the Middle East than had been made in the preceding 2,000 years. This year the campaign has been resumed, and, as in 1942, Lend Lease planes and trucks have joined the British brigades. The Soviet Government, too, has now assigned planes to the work.

The countries of the Middle East with our help, have taken many steps towards greater self sufficiency and towards supplying United Nations needs. In Egypt, thousands of acres that used to grow cotton are now producing grains and sugar instead. Both Egypt and Iraq are growing rice to make up in part for the loss of the rice that used to come from Burma. American corn has been introduced into Iran through Lend Lease shipments of seed corn. Ethiopia is now shipping jute to the United Nations.

Small amounts of machinery from Great Britain and the United States have also made possible the development of valuable local manufactures. Super phosphates are being manufactured in both Palestine and Egypt. Palestine produces enough dry batteries for all Middle Eastern requirements. Factories in Iran are producing anti freeze for our lorries. In Egypt, canning plants are turning out rations for American and British forces and textile mills are producing allied uniform equipment as well as clothing for the civilian population.

ments from the United States are sent under what is known as "cash reimbursable Lend Lease," because the countries receiving the supplies generally have enough foreign exchange to pay for them.

By the summer of 1942, we had proceeded far enough on this joint programme to make the vast area behind the forces holding

the El Alamein line a secure base from which to launch a major offensive

In July and August 1942, the Middle East air forces, greatly strengthened by the arrival of more Lend Lease and U.S.A.A.F. planes, smashed with mounting success at Rommel's desert supply lines. They attacked Axis Mediterranean ports and convoys with devastating results, while British submarines and light surface warships sank more ships bringing Axis reinforcements.

By the end of the summer, Rommel had apparently decided that the longer he waited the further the allies would push ahead in the battle of supply. On the 31st of August, 1942, he started his final offensive. But General Sir Harold Alexander and General Sir Bernard L. Montgomery, now commanding the British and allied forces, were ready for him, within six days his offensive was broken. This was the victory that Churchill had told me in July he hoped would occur before I returned from England to the United States.

In the six weeks that followed, Alexander and Montgomery completed preparations for their own offensive. By September, the new General Sherman tanks and 105-mm. self-propelled anti-tank cannon, which had left the United States seventy days before—just after the disaster in June—began arriving at Red Sea ports in substantial numbers. When they had been unloaded and prepared for action, Montgomery was ready.

American and British bombers and fighters, piloted by men of many nationalities, roared overhead in wave after wave to soften up the enemy. On the night of October 23rd, 1942, there followed a massed artillery barrage, the most concentrated ever laid down by United Nations forces. Hundreds of big guns and medium guns made in British and American factories thousands of miles apart were lined up side by side pouring shells into the Axis positions.

Then the 8th Army advanced—infantry from Britain, Australia, New Zealand, South Africa, India and the nations in-exile, and the armoured forces—American Shermans and Grants and British Matildas and Valentines, all manned by British and allied crews. This time the German armour was completely outclassed as the Shermans and the 105s turned Rommel's tanks one after another into flaming wreckage. By November 4th, Rommel was decisively beaten and in full retreat.

El Alamein was primarily a British victory. It was also a victory for mutual aid. It showed what the United Nations could do once they combined enough of their weapons and their men in a single united striking force.

As the 8th Army pursued Rommel's forces back across the Egyptian border and into Libya, the three great convoys that had

sailed from Britain and the United States when the attack began at El Alamein converged off Gibraltar and the Atlantic coast of French Morocco. One task force of British warships and transports carried United States infantry and armoured forces from England. It was bound for Oran. A second task force, also made up of British ships, was bound from England for Algiers with a mixed American and British force, including British Commandos and American Rangers. The third force, which had sailed from the United States, was all American and carried troops destined for the attack at Casablanca.

At 1 a.m., on Sunday, November 8th, 1942, the first landings were made at Algiers and Oran. Three hours later, our troops went ashore in the Casablanca area on the Atlantic coast. Within forty-eight hours, all our major initial objectives had been secured, and on November 11th, the last remaining resistance ended when Admiral Darlan countermanded Vichy's original orders to resist.

Immediately after the capitulation of Algiers, a race for Tunisia began. Our advance units got within 25 miles of Tunis, but the Axis meanwhile had poured forces into Tunisia by air and sea across the narrow Sicilian straits. We were unable to bring up sufficient air support, for the rainy season turned the temporary advance fields into seas of mud. Supply difficulties multiplied rapidly, and it was necessary to suspend further offensive action.

To complete the conquest of Tunisia, we had to wait five months while we built up our supply lines and bases in the rear. But all Algeria, Morocco and French West Africa were in our hands, and on the other side Rommel's army was fleeing before the 8th Army. The Axis forces in Africa were caught in a gigantic squeeze.

The invasion of North Africa was built on the unified military planning of the Combined Chiefs of Staff and on the pooling of arms and other material resources through the Combined Boards, Lend Lease and Reverse Lend Lease. All the experience in closely integrated air, land and sea attack gained in the British Commando raids on the coasts of occupied Europe during the preceding two years went into the planning of the expedition. The ocean going landing ships and the smaller landing-craft were built on standardized designs that had been searchingly tested in raids like that on Dieppe and in repeated practice manoeuvres on the coasts of Scotland and Virginia. American and British shipyards had worked furiously throughout the summer and autumn of 1942 to turn out enough of the landing-ships in time, some of the larger vessels actually were not ready until just one week before the expedition got under way.

The supply services of both countries were occupied night and day for weeks in the tremendous task of bringing men and materials



Unless steps were taken at once to restore North Africa's economy, we would have to fight a battle in Tunisia at the end of an overland supply line that ran 1,000 miles through a population of 16,000,000 underfed underclothed, often indifferent and perhaps even hostile Arabs and Europeans

The original task forces had carried only two or three thousand tons of civilian supplies and barter goods bought with Army funds. General Eisenhower immediately cabled Washington for additional aid. It was not long in coming.

On November 13th, 1942, five days after the landing, the President declared the defence of North Africa vital to the defence of the United States, thus qualifying the area for Lend Lease aid. He instructed me to see that General Eisenhower got what he wanted. With a little luck and a lot of leg work, we managed to get together a first lot of 8,000 tons of essential supplies within a week. Within another week, we had it all in port and in the Army's hands. It was in time to make the next convoy and reached North Africa before the first of the year.

These 8,000 tons, however, did not go far. The first important food shipments came, not from the United States but from Great Britain. In the summer of 1942, before our landings, the convoys to Malta had been suffering such heavy losses that the British were sending convoys from both ends of the Mediterranean, hoping that in this way enough supplies would get through. The occupation of North Africa and Libya improved the naval picture in the Mediterranean, and a Malta convoy from Alexandria arrived almost intact in December 1942. The second Malta convoy, which was to have risked the run in from Gibraltar, had already left England, and now the British sent it to French North Africa instead.

This convoy carried over 40,000 tons of supplies, including 18,000 tons of flour. Its cargo had been planned, of course, with the needs of Malta in mind, but almost all of it could be used in North Africa except a few fertilizers prepared especially for the rocky Maltese soil. Clothing, shoes, milk, coffee, tea, kerosene, potatoes, and a few chemicals and metal products all helped to save the day in the first weeks after the allied landings. The only unhappy reaction, I am told, came from French women who ended up with some sturdy British shifts and bloomers that had been destined for the female population of Malta.

Four-fifths of the first civilian supplies to reach North Africa were of British origin. But the strength of America has become such a legend abroad that we got most of the credit for the British goods. The North African public steadfastly believes even to this day that everything to eat or wear that comes from abroad must have come from the United States.

Our first two Lend Lease civilian representatives Livingston Short and Lloyd Cutler, reached North Africa in December about the same time as the convoy carrying the first Lend Lease supplies. They were members of a special mission headed by Paul Culbertson of the State Department, which represented the Lend Lease Administration, the Treasury, the Board of Economic Warfare and the Department of Agriculture. The members of this mission joined British representatives to form the nucleus of the North African Economic Board organized by General Eisenhower as a staff section of Allied Force Headquarters.

The Board was charged by General Eisenhower with the responsibility for securing the civilian front behind the fighting lines. Short was named Chief of the Import Division of the Board which determined civil import requirements, arranged for procuring and shipping them, and supervised distribution after they had arrived. The Lend Lease men in North Africa were under the military direction of Major General Sir Humphrey Gale. General Eisenhower's chief administrative officer.

From the first, civilian supplies were imported as an integral part of our military programme.

The first objective of the civilian supply programme was to maintain the local economy at the minimum level necessary to prevent rioting in the cities or unrest in the farm and mountain areas through which ran our supply lines to Tunisia. We did not propose to use up our armed strength on guard duty in the rear.

The second objective was to maintain the local labour force already working for North African utilities of vital importance to the campaign such as the railways and the power plants. We had also to recruit additional labour for service on the docks and in the construction and maintenance of airfields and roads. Otherwise, many thousands of additional troops would be tied down behind the front on the job of keeping the supply lines in operation.

The third objective of the programme was to help North Africa produce for its own people and for our armies as much as possible of the supplies that otherwise would have to be shipped in from this country or from Britain. Aside from the necessity of saving shipping space, many essentials of the modern military machine are extremely difficult to ship overseas at all because of packing problems or perishability. They must be obtained locally wherever possible. Oxygen for bombers, acetylene for welding repair operations, and fresh foods all fall into this category.

Our fourth objective was to restore the economic life of the people of North Africa—the first area to be liberated from Axis domination. All the peoples of occupied Europe were watching us. It was necessary to show them that liberation from Axis

tyranny would mean something more than freedom to starve or to live on the charitable leavings of the United Nations forces. It must mean the reopening of the road to a productive, self-supporting economic life of their own. The overthrow of Mussolini in Italy was certainly not prejudiced by Italian observation of the civilian supply programme in North Africa.

Determining the precise quantity of civilian supplies that would be required to accomplish these objectives was a difficult task. A limited amount of shipping was available for the entire North African military operation, and the highest shipping priority was obviously assigned for the men and tanks, the guns and ammunition needed to drive the Germans and Italians out of Tunisia.

The ultimate decisions on the use of shipping were made by General Eisenhower's staff. All the Army services—Ordnance, Air Forces, Signal Corps, Quartermaster Corps and Engineers—presented their tonnage requirements. The civilian supply needs were presented by the North African Economic Board. The Allied Command assessed the comparative military importance of all the requirements and finally allotted 30 000 tons of shipping from the United States per month to the civil requirements of the area, exclusive of coal and oil. Britain was to supply the coal, which came to 82,500 tons a month for both military and civilian needs, and some other civilian requirements also. The Mediterranean was then still closed at the Sicilian straits and a large proportion of the oil would have to come from the United States.

At first, the civil problem of highest military priority in North Africa was to avert famine. The economy of this area is based on intense cultivation for the so-called "early" produce markets in France and throughout the Mediterranean. North African wheat, fruits, mutton and vegetables were grown primarily for export to France in the early spring and summer, before the French crops came in. Later in the year, the situation was normally reversed, and late French cereals, fruits and vegetables would flow back into North Africa.

The North African harvests in 1942 had been poor. None the less, when we landed on November 8th, 1942, a large part of the crops had already been taken to France. Germany and Italy. The late crops had not yet come back from Europe in return. Of course, they never did come back.

French authorities warned us, shortly after the landings in North Africa, that widespread famine could be expected if the allies did not send wheat. Local estimates of the amount required to maintain the existing ration of less than a pound of bread per day until the 1943 harvest came in were 50,000 tons of imported wheat per

month. This was 166 per cent of the allotted shipping space for all civilian supplies.

With the help of two British Ministry of Food experts, the North African Economic Board set about the task of reducing this figure to manageable proportions. One had been a grain buyer in civil life and knew the North African market well. The other

and finally cut the estimated wheat import requirements from 50,000 tons a month to 15,000 tons a month, provided the local authorities adopted additional restrictive measures. The Board backed them up and held its wheat and flour import programme down to this figure. It stuck to its guns in the face of warnings that the allied forces would have to assume full responsibility for any resulting famine.

Actually, 88,000 tons of flour and wheat were shipped in during the six months ending June 30th, 1943—a rate of slightly less than the estimated requirement of 15,000 tons a month. Of the total, 84,000 tons were actually used in North Africa, and 4,000 tons were left for use in Sicily. The 84,000 tons, however, were vital. If they had not arrived, there would have been no bread rations whatever in March, April and May 1943—the last three months before the harvest. But because of the reduced estimates we had

better example of the value of trained civilian experts in a military campaign.

The shortage of clothing in North Africa was almost as severe as the shortage of food when our forces landed. Textile imports needed for clothing for the Arabs had shrunk to almost nothing under Vichy. Woollen goods for European type clothes had not been seen at all since 1940. Shoe imports had also stopped completely. The clothing stores were empty, and many people were going ragged. To help clothe them, we sent before the end of the Tunisian campaign 8,000 tons of textiles and 2,500 tons of shoes and ready-made clothing. This was a small amount for 16,000,000 people, but it did relieve the worst of the shortage.

Besides food and clothing, we have shipped small quantities of machinery, spare parts and materials for the production in North Africa of supplies needed there and by the United Nations. Cordage, fish nets and tin-plate, for example, have assisted in

restoring the local sardine industry The shipment of a few coal-cutting tools has stepped up production in the North African coal mines and will reduce the amount of coal that has to be shipped in And we are obtaining for the United Nations an increasing tonnage of high grade iron ore, phosphates to use as fertilizers, and cobalt, a very scarce metal essential to make alloy steels Most of the iron ore and phosphates have been shipped to Britain, thus reducing Britain's need for steel and fertilizers from the United States

We have sent petrol and spare parts to run the North African lorries essential to our Army's supply system We have sent medical supplies to prevent epidemics One emergency shipment was made by air to West Africa when the spread of the terrible sleeping sickness threatened both the native population and our own troops

Only a small percentage of Lend Lease supplies, principally milk for children and some food and clothing for inhabitants of war-damaged Tunisia, were distributed as direct relief Almost all American goods have been distributed through regular commercial channels If we had attempted to distribute all the goods ourselves, we would have had to send thousands of additional American civilians or Army men, instead of the three score men in the Lend-Lease Mission

The United States is being paid in cash by the French authorities for its shipments of civilian supplies to North Africa Payments totalling over \$40,000,000 have already been made The French are able to pay because their dollar balances have been increased, by our Army's purchases of francs in North Africa

With the new harvest at the end of June 1943, we wrote finis to further wheat and flour shipments to North Africa Since then shipments of food to North Africa have been limited almost entirely to small amounts of sugar, tea and milk, which cannot be provided locally

Our efforts were always directed especially towards assisting North Africa to feed itself and to provide food for our Army too out of the crops to come To that end, small quantities of spare parts for agricultural machinery, tractor fuel, binder twine and bags were sent in for this year's early harvest, and additional shipments of fertilizers, insect sprays, seeds and agricultural machinery were budgeted for the plantings that followed The farmers of North Africa are again planting and harvesting large crops, and North Africa is making an ever greater contribution to the United Nations cause

Some months ago Elmer Davis, Director of the Office of War Information, sent me a copy of a letter that Sergeant George M

Fried, of a United States Army anti aircraft battery in North Africa, had written in January 1943 to his family in Crompond, N Y

"It is not difficult to understand," he wrote, "what a potent military weapon food is in this part of the world. If there was any indifference in the minds of these people regarding the outcome of the war, you may be certain that it vanished with the arrival of American food. Across the street from us lives a stout woman, who, before the arrival of the Nazis, was even stouter. She was always pretty cranky towards us, but now the situation has changed. She has become overnight fervently pro United Nations. Why the change? Well, it seems that this morning she went to the grocery store and, to her astonishment, was presented with three cans of evaporated milk. That means vitamins for her kids, and that's the kind of language she understands. She showed me the cans, and tears came to her eyes as she invoked the blessings of the Lord upon the Americans."

March, April and May 1943, when there would have been famine in North Africa without our food shipments, were the three crucial months of the Tunisian campaign. Our supply line twisted through the entire length of Algeria. Oran in the west and Algiers in the centre were our principal ports. The bulkiest cargoes moved out again from Oran and Algiers by sea on small coastal vessels to

... in eastern Algeria and thence  
... Top priority  
... airports at Oran  
and Algiers to the bumpy meadow and scrub in the Tunisian scrub. The remainder went overland, either by lorry or on the Algerian railway with its tiny four wheel goods wagons that carried a maximum of 10 tons—a fourth as much as the average American wagon. Both the railroad and the highway ran through the mountains to the high and fertile Constantine Plateau and then

... to the front  
... on these routes  
... at ports, airfields  
... and yet it is a fact  
or on the long stretches of railway or road  
that throughout the Tunisian campaign not one important mishap occurred to any link of the military transport system in Morocco  
... directly to an act of sabotage

the front and behind the lines, has been  
offensive in Tunisia

The British 8th Army had captured Tripoli on January 23rd, 1943, after a 1,400-mile chase across the Egyptian and Libyan

deserts. Sooo afterwards, what remained of Rommel's army had retired into Tunisia behind the Mareth Line, where it joined forces with the army which the Axis had rushed to Tunisia under Von Arnim.

General Eisenhower's command was extended to include the 8th Army. Directly under him were three British veterans, General Alexander, Admiral Sir Andrew Cunningham and Air Chief Marshal Sir Arthur Tedder, in charge of the land, sea and air forces respectively. Each of their commands included British, American and French units. Among General Alexander's ground forces were also Australians, New Zealanders, South Africans, the fierce fighting Moroccan "Goums," Indians, Senegalese, and even some Indo Chinese. Admiral Cunningham had Greek, Polish and Norwegian warships in his fleet, and Air Marshal Tedder's air forces included Polish, Greek and Yugoslav fliers besides the Americans, British and French, and units from the British Dominions.

The day after the 8th Army entered Tripoli, a Fighting French brigade under General Le Clerc joined the British after a 3,000-mile advance across the Sahara Desert from Fort Lamy in French Equatorial Africa. Riding in battered British and American Lend Lease trucks, supported by a few American and British aircraft, they had taken one Italian held oasis after another in southern Libya. Their losses had been heavy, but they were eager to join in the final Tunisian campaign.

Another colourful United Nations fighting force in North Africa was the Corps Franc d'Afrique—the Free Corps of Africa. This group, organized by General Giraud and commanded by French Army officers, though not a part of the regular French Army, was made up of refugees from every country in Europe. Many of them were exiled Germans and Austrians and Poles who had enlisted in the French Foreign Legion before the fall of France, only to be sent by Vichy, after the Armistice, to forced labour on the Trans-Saharan railway and in the coal mines on the edge of the Sahara. Liberated after our arrival, they jumped at Giraud's offer to join in the fight.

The Corps Franc d'Afrique had to depend for supplies in the first few months on what could be spared by the regular British, American and French forces. They got along on one mess kit for every three or four men. They rode in British reconnaissance cars, American jeeps, and ancient French mule-wagons. They had all kinds of rifles and artillery, and one or two each of most of the known varieties of allied tanks. They fed themselves on what they could find, and their uniforms looked like a sandlot collection. But they became one of the toughest fighting units in Africa. I am

told they were known among the baseball minded American soldiers in North Africa as the "Gashouse Gang" of Tunisia.

The regular French Army was almost as badly off for equipment when the allied forces arrived. The best of its equipment was of 1938 and 1939 vintage, and there was little enough of that. The German-Italian Armistice Commissions had succeeded in demilitarizing practically everything—except what the French had managed to hide. Neat holes had been bored into the machine guns and in the barrels of the shore batteries. There was hardly an anti aircraft gun in the entire French Army in North Africa. There were only a few batteries of heavy artillery, a score of tanks of ancient vintage, limited supplies of rifles and side arms and a small number of usable machine-guns. A few antiquated planes made up the entire equipment of the French Air Force, and its fliers had been limited by the Nazis to thirty minutes of flying time a month.

There had been no provision in the Armistice Agreement of November 11th, 1942, signed immediately after our landings, for the reactivation of the French military forces. However, on November 15th, the President affirmed our policy to supply weapons to the peoples of territories liberated from Axis control in order to hasten the defeat of the enemy. Soon afterwards units of the French Army began to volunteer for service under General Eisenhower, and on December 13th, he issued orders to all commanders in combat areas to give arms out of their own stocks to French units already fighting or preparing to fight.

On December 24th, General Eisenhower established a Joint Rearmament Committee, whose purpose was to effect "an overall plan for the rehabilitation of the French forces on land, in the air, and on the sea." The Committee was composed of American, British and French officers. In accordance with policies laid down the next month at the Casablanca Conference, it developed a programme for rearming a French Army of more than 300,000 men and re-creating a French Air Force of 1,000 planes. Soon afterwards equipment for the French both from the United States and Britain, began to flow into Africa—enough for several armoured and infantry divisions. Unlike civilian supplies the munitions were supplied to the French under Lend Lease without any cash payments.

On March 20th, 1943, the final offensive in Tunisia began. The 8th Army attacked on the Mareth Line, while the Americans under General Patton, the British First Army, and French units armed with American and British equipment attacked on the other side to divert enemy strength. Within a few days, the Mareth Line



was flanked, and by April 7th, American patrols had made with advance units of the 8th Army south-east of Gafsa. The co-ordinated allied attack forced Rommel's army back to the enemy was squeezed into the Tunis Bizerta Cap Bon triangle.

At the same time, intensive aerial blows were struck at the Axis supply lines across the Sicilian straits by airmen of many United Nations all flying as one team in planes produced in both American and British factories. Within fourteen days 147 enemy transport planes and thirty one ships were sunk or damaged. We had effectively cut the enemy's communications with his supply base while our own functioned smoothly.

The concluding attacks were begun on April 20th, 1943. On May 7th, British armoured forces drove into Tunis itself, while the American Second Corps smashed its way into Bizerta. Members of the Corps Franc d'Afrique raced the Americans into the Axis stronghold. Three days later, the 8th Army and a French army corps completed the job on Cap Bon. There was no Dunkirk for the Axis. More than a quarter of a million German and Italian troops surrendered, and units of the reborn French Army accounted for almost 50,000 of the prisoners.

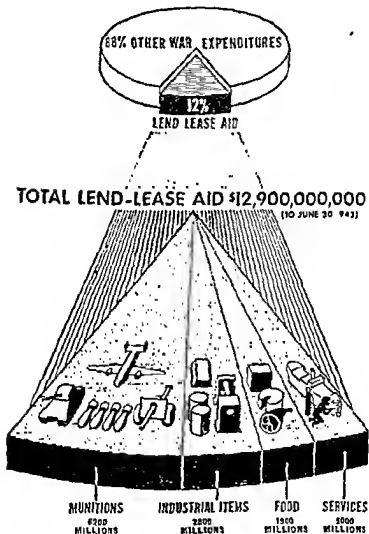
The French Air Force that participated in the Tunisian campaign was truly international in its equipment. One of its units, the Lafayette Escadrille, was equipped with thirty six Airacobras supplied under Lend Lease, another with sixteen Spitfires furnished by Great Britain. Because enough Lend Lease or British planes had not yet arrived, a third group, known as Group 8, was equipped with seventeen French Leo 45s of 1939 vintage, brought together from scattered airfields in North and West Africa and patched up with whatever spare parts could be made to fit. Although too slow and vulnerable for daylight operations, they did good work in night bombing raids over the Axis lines.

Back in Algiers and Casablanca, there were parades on Sunday May 9th, 1943, in celebration of the fall of Tunis. Thousands of French soldiers, who were not in time for the Tunisian campaign but who were training for the invasion of Europe, drove Sherman tanks, self-propelled artillery, new jeeps, lorries, combat cars through the streets. Behind them marched equipped infantry and engineer battalions. It was the first time in three years that soldiers of France had been seen in a full-dress parade, and the crowds that lined the pavements wept and cheered and waved the Tricolor. A new France was rising from the ashes of defeat.

Eight weeks after the Axis had been eliminated from Africa the first step in the invasion of Europe was taken with the landing

# LEND-LEASE AND TOTAL WAR COSTS

## TOTAL WAR COSTS



on Sicily. It was another United Nations combined operation—of leadership, of men, of ships and of weapons. It packed even more power than the Libyan and North African campaigns that preceded it. This time Sicily was ours, and Mussolini was overthrown in little more than a month. The fortress of Europe was breached.

#### CHAPTER XXXVIII

### LEND LEASE AND THE UNITED STATES

THE United States has put into Lend Lease about twelve cents out of every dollar that we have spent to fight this war. By the middle of 1943—two years and four months after Lend Lease began—the total cost of our Lend Lease aid amounted to \$12,900,000,000, and that figure has since been going up at the rate of a little more than 1,000 million dollars a month.

This is the simplest measure of Lend Lease—the number of American dollars that we have spent to produce the goods and provide the services that we have made available to our fighting allies. But it gives only a hint of the real meaning of our aid for we are not winning the war with dollars. The victories of the United Nations are won by fighting men using planes, tanks, ships and guns. In the last analysis, the measure of our Lend Lease aid must be found in extra striking power on the battle fronts against our enemies.

What does \$12,900,000,000 of Lend Lease by June 30th 1943, actually mean in terms of fighting strength?

First of all it means about 13,000 airplanes—a few hundred of our big four motor bombers, 4,000 medium bombers, 5,000 fighters, many trainers and some military transport planes. And it means also the spare parts necessary to keep these planes in the air and many motors for airframes built in the factories of our allies. All this accounts for close to 2,000 million dollars.

Of these 13,000 airplanes more have gone to Russia than to any other battle front. In the early days of course, most Lend Lease planes went to the British forces in Egypt and in the British Isles. But as the sea lanes and the ferry routes to Russia have been expanded, the Soviet's share of our Lend Lease airplanes has steadily risen. By the middle of 1943 the Russians were receiving over a third of them. The next largest shipments went to the British Isles and the balance to the Mediterranean, the Pacific and the Far Eastern theatres.

The Lend Lease planes we are sending from the United States represent about sixteen out of every hundred that our factories are turning out. The other eighty four are going to our own Army and Navy. The percentage of planes we lend lease in any one month depends, of course, on the strategic decisions of the Combined Chiefs of Staff as these are carried out by the Munitions Assignment Board. From month to month, the percentage fluctuates. In one recent month, we sent 22 per cent of our plane production under Lend-Lease, in another recent month, it was down to 10 per cent.

The planes we manufacture in the United States are not divided up according to the ability of our allies to pay for them or on the basis of orders placed many months before. Lend Lease is a flexible mechanism geared to the month-by-month requirements of our over-all war strategy. Our planes are assigned, as they come off the production lines, to the forces and to the theatres of war where they can strike the hardest blows.

The proportion of our tanks that we are sending to our allies under Lend-Lease has been much higher than the proportion of planes. In this field, probably more than anywhere else, we have been the arsenal of our allies. Over 14 000 tanks had gone abroad under Lend Lease by the middle of 1943, and many more were on the docks or rolling out of the factories. This means today about thirty-eight out of every hundred tanks produced in the United States—a higher percentage for Lend Lease probably than of any other military item we produce. Tanks account for over 1,000 million dollars of the total figure of Lend-Lease aid.

Three hundred thousand lorries, jeeps, scout cars and other vehicles account for another 500 million dollars. Out of every seven Lend-Lease motor vehicles, three have gone to Russia, two to the Pacific and the Far East, and the other two to Egypt, Britain, Iran or other theatres of war. American Lend Lease lorries are fighting the war of supply all over the globe, although we have only sent ten out of every hundred we produce.

The planes, tanks and lorries, together with more than 1,500 million dollars worth of guns and ammunition, 1,000 million dollars worth of fighting ships, landing craft and merchant vessels leased to our allies, and thousands of other smaller items total up to a little over 6,000 million dollars. Or, put in another way, about six cents out of every dollar we have spent for the war have gone to buy weapons and ships for the fighting forces of our allies.

Most of the arms we make in this country go to our own soldiers—over four-fifths of them. No American soldier ever goes into battle without the proper fighting equipment because of Lend-Lease. Our own Army and Navy officers who handle the Lend-

Lease munitions programme see to that. But we in this country have been able to produce more weapons than we could bring to bear with maximum effect on the enemy. We had the greatest industrial capacity, we were attacked last, and we have never lost an hour of war production because of enemy action.

In the beginning, we were not geared up for war, and it took us a while to get our production started. Even in the early months of 1942, after we had been attacked, we were still second to the British in arms production. But now that our war plants are running in high gear, we are an arsenal such as the world has never known before, producing by ourselves more munitions than all the Axis nations combined.

6,000 million dollars will buy a lot of weapons, and we have indeed sent a vast quantity of munitions abroad under Lend Lease. American armies in the field equipped with American weapons are fighting side by side with the forces of other United Nations who are striking our enemies with greater power because they have been strengthened by weapons which also came from this country. But we cannot take too much credit for arming the forces of our allies. They are using their own factories to the limit, and they have been able in large part to arm themselves. Lend Lease weapons supply them with an extra fighting punch.

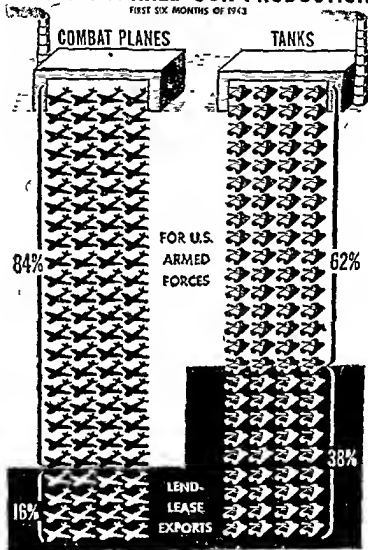
When we take the 12 per cent Lend Lease slice of our total war spending and slice that up in turn, about half of it represents fighting equipment. The next largest slice of Lend Lease represents industrial materials and machinery for making or repairing weapons, railway equipment for hauling goods to the factories and to the battle fronts, and oil and petrol. These also are weapons, although one stage removed from the battle fronts. They account for nearly 3,000 million dollars more out of the \$12,900,000,000 of our total aid.

It is very easy to see how an American gun, no matter who shoots it, is speeding victory when it kills a German soldier, or knocks out a German tank, or brings down a Japanese plane. When a ship sails with a load of Lend Lease aluminium ingots or steel bars, or with a load of Lend Lease machine tools, the connection between those supplies and the battle fronts against Germany and Japan is a little less apparent. In the long run, however, our industrial shipments ton for ton probably result in greater striking power against our enemies than our shipments of weapons themselves.

By sending aluminium to Britain, for example, we put to fullest use at the cause of the United Nations the skilled labour of British workmen, British power capacity, and British industrial plants which can turn out finished planes to strike at Germany and Japan. By sending a Lend Lease tyre factory to Russia, we enable the

# HOW WE SHARED OUR PRODUCTION

FIRST SIX MONTHS OF 1943



EACH SYMBOL REPRESENTS 1% OF U.S. PRODUCTION

Soviet Union to make tyres out of their own rubber for the lorries carrying troops and arms to the battle-front against the retreating Nazis. The aluminium in Britain and the tyre factory in Russia add more to our combined striking power than they would if they remained here in this country. And that is the test we use when we decide whether or not to send industrial products abroad.

The final decisions on where our raw materials and industrial equipment are to go are made by the Requirements Committee of the War Production Board in accordance with the general policies of the Combined Production and Resources Board and the Combined Raw Materials Board. Lend Lease requirements are filed with the Requirements Committee side by side with the requirements for our own Army, Navy and civilian production, and with the requirements for the maintenance and expansion of our own industrial plant. The business men, industrial experts, and economists in the W P B have a difficult job because the supply is often far smaller than the sum total of the requests. Lend Lease requests are met only to the extent that experts decide that the materials and the machinery our allies ask for will do more to speed victory if we send them abroad than if we keep them at home.

The decisions on lend leasing industrial supplies are complicated and difficult at best, and we have undoubtedly made some mistakes. Through a natural desire to keep all American war plants running at top speed, we have probably kept some raw materials and machines here at home which could have contributed more to the war in the factories of one of our allies. We have probably sent some abroad that did not result in striking power quite so quickly as if we had retained them to make weapons for our own forces.

Moreover, no matter how carefully decisions are made, they may be upset by the exigencies of war. Russia takes the offensive and no longer needs barbed wire that we have ordered for her. The Burma Road is cut, and some of the supplies purchased for China can no longer be delivered. Shipping is diverted from the run to Great Britain for the North African campaign, and steel destined for Britain begins to pile up in the warehouses. When such things happen, the Lend Lease Administration reports it to the W P B and any other interested agency of the Government. Then, just as the Munitions Assignment Board reassigns weapons on the basis of sudden needs on the battle fronts, so industrial supplies are reassigned to our own war plants or to another Lend Lease country.

Although the amounts of Lend Lease industrial items in themselves bulk large—7,000,000 tons of steel, for example, over 200,000,000 dollars worth of machine tools and over 100,000,000 barrels of petroleum products up to June 30th, 1943—the percentage of our total production that is lend leased is very small.

Only about six tons of steel out of every hundred, only nine dollars out of every hundred dollars worth of machine tools, and only

shooting at, however, they are far more important than these percentages indicate. A single shipment of special alloy steel or a few machine tools may break a bottle-neck in the war production of one of our allies and result in manifold its own value in finished weapons.

The same rules that apply to the division of our weapons and industrial materials are applied to our food supply. Our own Army and Navy and civilians must have what they need to maintain themselves at the peak of fighting and working efficiency. But it is equally vital to our plans for winning the war that we help our allies as much as we can to maintain rations sufficient to keep them as effective fighting partners. We cannot afford malnutrition among the war workers in British factories, or famine in Russia and substandard rations for the Red Army, if we can possibly prevent it.

The Food Requirements and Allocations Committee of the War Food Administration, under the over-all guidance of the Combined Food Board, performs the same function in the distribution of food as the Requirements Committee of the WPB does for industrial materials. All requests for food—for the Army, the Navy, for civilians in the United States and for Lend-Lease—come to this Committee. Its members must decide how much food we can spare for the vital needs of our allies.

From the beginning of Lend Lease to the middle of 1943, we were able to lend lease over 5,000,000 tons of food. In addition to that, about 700,000 tons of other agricultural products were sent. Taken together, these account for another 2,000 million dollars of the \$12,900,000,000 total of Lend-Lease aid.

In the over-all picture, the Lend Lease slice of American food has been small—6 per cent in 1942 and about 10 per cent in 1943. In crucial items the Lend-Lease percentage has been even smaller. Half a pound of beef out of every hundred pounds, three quarts of milk out of every hundred, two cans of canned fruit and less than one can of canned vegetables out of every hundred have been lend-

With a few exceptions, such as butter, out of every hundred pounds of mutton out of every hundred pounds, ten eggs out of a hundred, 20 per cent of our canned fish, and 18 per cent of our dried fruit.

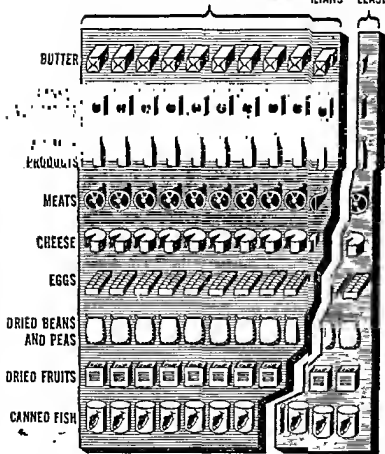


# OUR FOOD SUPPLY AND LEND-LEASE

FIRST SIX MONTHS OF 1943

AVAILABLE FOR U S ARMED FORCES AND CIVILIANS

LEND  
LEASE



EACH SYMBOL REPRESENTS 10% OF SUPPLY

American soldiers and sailors and civilians are getting about 90 per cent of the food we produce. Why is it then that we have shortages in this country? We had record food production for three years running in 1940, 1941 and 1942, and this year we may again break the record in spite of the inevitable difficulties which confront our farmers in war time. The question, "Where has all our food gone?" is a fair one.

Although the answer in all its details is very complicated, the fundamentals may be stated simply. In the first place, many of our young men and women now in the armed services are eating more than they ever did before and eating better food than ever before. Our Army and Navy feed our soldiers and sailors well, and I know that no American would have it otherwise.

Even allowing for the increased rations of those who have gone into the armed forces and for the Lend-Lease shipments, however, as much food has been available to American civilians as in the average years before the war. The extra volume of food that our farmers have managed to produce has just about equalled the increased needs of the armed forces and of our allies. There has been less of some things for civilians in this country, but more of others. Yet we have had shortages and rationing.

The heart of the matter is simply that the average American today has a good bit more money to spend on food than before the war, and he has naturally sought to spend it. As a nation, we can buy as much food as we ever did. But we have money to buy more than that now, and hence there have been "shortages."

The fact is that we in the United States have really suffered nothing worse than inconveniences so far as food is concerned. While some of us may not be able to obtain as much beef, butter and some other particular items of food as we had before, others are actually getting more because for the first time they are able to afford an adequate diet. And no one in this country has had to go without enough food for good health because of the war.

Outside of the United States, however, there is a very real world shortage of food that will grow more and more serious as the war draws to a victorious end. That has occurred during every major war, and this war is by far the most widespread and devastating ever fought. Food will continue to be one of our critical problems, and it will require the full co-operation of every one of the United Nations to prevent hunger abroad from endangering our victory.

As our forces smash into Hitler's European fortress and the liberated peoples rise up to join us in the drive on Berlin, we shall probably have to share more of our food than we have so far. Entirely aside from reasons of common humanity, it will be essential to our own victory to do so. Hunger and famine breed disease,

epidemics spread swiftly. If they occur in areas where our troops are operating they might easily take the lives of more American men than German bombs and bullets. Moreover, the despair of those who have long gone hungry can lead to riots and disorders which would seriously hamper our military operations.

Taking a longer view, famine and disease can reduce nations to a hopeless lethargy that would delay for years the rebuilding of devastated countries so that they can again support themselves and trade with us and the rest of the world on a mutually profitable basis.

Helping to feed the peoples liberated from the grip of the Axis will not mean any real shortage of food in the United States. All the indications are that we shall continue to be about the best fed people in the world. We may have a simpler and less varied fare than we would like, but it will be more than enough for our needs, and every pound that we can spare to relieve hunger abroad will bring American soldiers home from final victory that much sooner.

When our Lend Lease food shipments are added to the shipments of weapons and industrial materials, they account for 11,000 million dollars out of the \$12,900,000,000 total of Lend Lease aid. The 2,000 millions remaining do not represent supplies. They are for services rendered to our allies—rental of merchant ships ferrying of airplanes, repairing of allied naval and merchant vessels, training of pilots, and many other services.

Over 500 million of the dollars charged up to services have been spent on factories and warehouses in this country which are used to manufacture and store Lend Lease goods. These facilities, of course, are all owned either by the Government or by private American citizens and represent a permanent addition to our own industrial plant. We have spent a little over 1,000 million dollars to provide the shipping and the air transport and ferrying services that our allies need. Another 300 million represents money paid out to our American shipyards for repairs and other services to the ships of our allies.

This is the breakdown, then, of the \$12,900,000,000 total of Lend Lease aid—\$6,200,000,000 worth of planes, tanks, guns, ammunition, ships, lorries, and other fighting supplies; \$2,800,000,000 of raw materials and industrial equipment; \$1,900,000,000 of food and other agricultural products; \$2,000,000,000 of shipping, ship repairs, factories and other services. We provide these things under Lend-Lease because they fight for our cause just as our own soldiers do. A Luftwaffe bomber is no less out of the fight because the American gun that shot it down

was manned by a Russian. A base in New Guinea is no less captured because some of the American tanks that blasted out the Japanese were manned by Australians.

We Americans are a hard headed people, however, and the average American will naturally say to himself, "\$12,900,000,000 is a lot of money. Have we got our money's worth?"

I think that we have in more than double measure. The total impact of Lend Lease on our economy has been relatively small. The dividends it has paid have been enormous. We are, it is true, drawing heavily upon our national resources to fight this war, mostly to arm and equip our own fighting men, but also to aid our allies. If we had not had Lend Lease, however, if Britain had gone under, Hitler had isolated Russia, Japan had completed the conquest of China, and finally we in the Western Hemisphere had stood alone against an Axis-dominated world, who can measure the expenditure of men and of our material wealth we would have had to make if our liberties were to survive?

But I would rather defer on this point to the eloquent words of Senator George in June 1943 during the consideration of the Fourth Lend-Lease Appropriation Bill. By the end of April of that year, the cost of our Lend Lease programme had climbed to \$11,000,000,000. In May, we went before the Committee on Appropriations of the House and the Senate with a request for 6 000 million dollars of new funds. When the bill reached the Senate floor, Senator George, who is Chairman of the Finance Committee, explained why he thought we had got our money's worth for our Lend Lease expenditures.

"This Nation is spending today at the rate of approximately \$8,000,000,000 a month," he said. "I am convinced that if we had not made the preparations which we made in those precious

. . .

cost us an untold number of human lives, the lives of the best men we have in the Nation. Even if we have shortened this war by only six months, we have cut down our expenditures, at the present rate, by \$48,000,000,000, not by a mere \$11,000 000 000, and in the blood of our men, in the tears of their mothers, we have saved more than can ever be estimated."

.

## PART V

# WEAPON FOR VICTORY

### CHAPTER XXIX

#### WEAPON FOR VICTORY

MARCH 11th, 1943, was the second anniversary of the Lend Lease Act. On that day we of the Lend Lease Administration joined with representatives of the United Nations at an anniversary luncheon. T. V. Soong, Lord Halifax, and Maxim Litvinov, each expressed the profound appreciation of his countrymen for the contributions to their fighting strength and to the strength of the United Nations as a whole, which had been made through Lend-Lease. As I introduced them, however, I did not feel that the United States was on the giving end and they on the receiving end. For each of these men represented a nation which like our own nation, was giving everything to achieve unconditional victory—Russia and China, both fighting with undying courage on their own soil, Britain, which stood fast after Dunkirk when all was nearly lost. We were all of us giving everything we had, our blood and our treasure, to hasten for all of us the day of victory.

Before we became United Nations, when each of us went his own way, we had only weakness and defeats and disasters. Since we have become United Nations, we have taken the war to the enemy. Today we are truly on the march. No matter how many months of bitter struggle may lie ahead, there is no longer any one among us who doubts for an instant that unconditional victory is ours—so long as we stick together. And it is plain enough that the Axis leaders also know this to be true—so long as we stick together.

This is the reason we have gained the power that we have today and that is the one condition on which ultimate victory now depends. As Congressman Bloom said during the debate on the extension of the Lend Lease Act last spring: "For any group of nations to fight an enemy which is both disciplined and ruthless requires mutual trust and close co-operation." I am sure this is what Senator George had in mind when he said a few days later, "The historians of the future will recognize that the date of the signing of the Lend Lease Bill was the day on which the Axis powers

were defeated." It is, I am sure, what Senator Vandenberg meant when he said that Lend-Lease operations "are at the base of our mutual strategy. They are the key to our co-ordination for allied victory."

What we are able to do with our victory when it is finally ours will depend entirely on whether we make the peace in the same way as we have learned to fight aggression—as United Nations. With unity we have achieved miracles in the 30 months since March 11th, 1941. We have escaped a disaster that might have set back the clocks of freedom for centuries to come. We are winning instead the opportunity to make new and great advances toward a better life for ourselves and for all men. We can use that opportunity only if we stick together.

One might, indeed, ask why there should be any question at all of our continuing to work together. Having won the war only because we were united, what a ghastly mockery it would be if we lost the peace because we permitted our unity to be destroyed. Then, truly, the lives of our men and the sacrifices of all those who have fought and worked for victory would have been given in vain.

If we have learned to collaborate in war, we can surely do so in peace. There will be many problems to be worked out between us, of course. There will inevitably be clashes of interest, and there will be points of friction. But that is nothing new or frightening—either within a nation or between nations. Such questions can be settled to our mutual benefit as we go along. Those Americans who doubt this have always seemed to me strangely lacking in confidence in the ability of the American people to use the power of our country wisely and well in international relations.

What have we to fear? Competition with Great Britain? Let us hope that there is plenty of healthy competition as well as close co-operation between us in the building up of the world trade and prosperity in our own and in other lands. The United States should be the last country in the world to fear competition after this war is won. We shall have by far the greatest industrial power, immense material resources, a country undamaged by the enemy, business men who can stand up to business men anywhere in the world, and a new and intimate knowledge of other peoples and other lands gained by the millions of our men who have gone abroad. If I were British, I could understand, perhaps, fearing competition from us in the post war world, for Britain has suffered heavy economic losses as well as military losses. But the British are good business men, too, and they will rebuild the economy of their country. It is in our own interests that they succeed. In a

prosperous, free world there will be abundant economic opportunities for both of us

Do we fear Communism in Russia? Why should we? Is our faith so weak in our own form of Government and in what free enterprise regulated in the interests of democracy has done and will continue to do for the United States? We have been working out our own experiment in our own way for more than 160 years. Let us continue to do so, and let the Soviet work out its own experiment in its own way. We have nothing to fear from Russia. We have everything to gain by a close, effective and friendly collaboration with her in our mutual self-interest.

Do we fear a reborn China? Of course not. China has been the world's most peaceful great nation for more than two thousand years. The new China emerging in this war had become a moral leader for all the United Nations through the vision of its people and its leaders of what is required for building a truly collaborative world.

In the making of peace, there is nothing for Americans to fear but a failure to have confidence in ourselves and in our country. If we are prepared to continue our war collaboration into the peace, we shall get collaboration from the other nations of the world to our mutual benefit.

All of the United Nations have subscribed to the objectives of the Atlantic Charter and the United Nations Declaration, which are in essence freedom of speech, freedom of religion, freedom from want and freedom from fear. These are not objectives which can be won overnight by wishful thinking. There is a long hard road ahead toward each of them. But they are no more unreal and no less worth striving for than the principles set forth in our own Declaration of Independence. On the contrary, they are the practical necessities for the building of a secure and lasting peace. All history shows that there can be neither peace nor prosperity when fear and want and tyranny prevail.

The methods of political collaboration necessary to achieve collective security have still to be worked out. It will not be an easy task. But with the United Nations as a foundation we can accomplish it. This is a responsibility that the people, the Congress and the President—all of us—will share together for our country.

The way to economic collaboration in the post-war world lies along the path charted in Article VII of the Master Lend-Lease Agreements with our allies. There we agree that the final Lend-Lease settlement shall include provision for agreed action, "open to participation by all countries of like mind, directed to the expansion, by appropriate international and domestic measures, of pro-

duction employment and the exchange and consumption of goods which are the material foundations of the liberty and welfare of all peoples, and in general to the attainment of all the economic objectives set forth in the Joint Declaration made on August 14th 1941 by the President of the United States of America and the Prime Minister of the United Kingdom

The Atlantic Charter is a charter of unlimited opportunity—opportunity for Americans and for all the other peoples of the world. It is a charter of opportunity to build a world in which enterprise and individual initiative will have full play in which challenging new frontiers of economic opportunity for all of us will stretch endlessly ahead.

The Master Lend Lease Agreements provide that the settlement of the Lend Lease account shall be one which will not shut the door to new opportunity but will on the contrary, open the door much wider. The value of such a return during the peace for our Lend Lease aid during the war is one that Americans are especially qualified to judge for we have always been a land of opportunity. We have generation after generation gone forth to meet the challenge of new frontiers. A Lend Lease settlement that opens up new peace time opportunities for a more prosperous America in a more prosperous world will be worth more than all the gold and all the materials we have expended in this war.

Lend Lease has been a measure of war—a programme through which the United Nations have pooled their economic resources for winning victory. It has never been intended as a way of doing business in peace although in carrying out the Lend Lease programme we have learned much that will be of great value to a wider peace time trade. It will be for Congress and the people to decide later what, if anything in the war time machinery of Lend Lease itself may be of permanent value.

Lend Lease operations as we know them now will some day draw to a close but we know already that the principle of mutual aid in mutual self interest that is embodied in the Lend Lease Act must live on. Today there is more unity of purpose and of action among freedom loving peoples than ever before. In that unity we can find the strength to build a peaceful world in which freedom and opportunity will be secure for all.



# APPENDICES

## APPENDIX I THE LEND LEASE ACT

Further to promote the defense of the United States, and for other purposes

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled* That this Act may be cited as "An Act to Promote the Defense of the United States"

### SECTION 2

As used in this Act—

(a) The term "defense article" means—

- (1) Any weapon, munition, aircraft, vessel, or boat,
- (2) Any machinery, facility, tool, material, or supply necessary for the manufacture, production, processing, repair, servicing, or

any

e for

defense

Such term "defense article" includes any article described in this subsection manufactured or procured pursuant to section 3, or to which the United States or any foreign government has or hereafter acquires title, possession, or control

(b) The term "defense information" means any plan, specification, design, prototype, or information pertaining to any defense article

### SECTION 3

(a) Notwithstanding the provisions of any other law, the President may, from time to time when he deems it in the interest of national defense, authorize the Secretary of War, the Secretary of the Navy, or the head of any other department or agency of the Government—

(1) To manufacture in arsenals, factories, and shipyards under their jurisdiction, or otherwise procure, to the extent to which funds are made available therefor, or contracts are authorized from time to time by the Congress, or both, any defense article for the govern-

dispose of, to any such government any defense article, but no defense article not manufactured or procured under paragraph

(b) The terms and conditions upon which any such foreign government receives any aid authorized under subsection (a) shall be those which the President deems satisfactory and the benefit to the United States may be payment or repayment in kind or property, or any other direct or indirect benefit which the President deems satisfactory.

(c) After June 30, 1943, or after the passage of a concurrent resolution by the two Houses before June 30, 1943, which declares that the powers conferred by or pursuant to subsection (a) are no longer necessary to promote the defense of the United States, neither the President nor the head of any department or agency shall exercise any of the powers conferred by or pursuant to subsection (a) except that until July 1, 1946, any of such powers may be exercised to the extent necessary to carry out a contract or agreement with such a foreign government made before July 1, 1943, or before the passage of such concurrent resolution whichever is the earlier.

(d) Nothing in this Act shall be construed to authorize or to permit the authorization of convoying vessels by naval vessels of the United States.

(e) Nothing in this Act shall be construed to authorize or to permit the authorization of the entry of any American vessel into a combat area in violation of section 3 of the Neutrality Act of 1939.

#### SECTION 4

#### SECTION 5

tion so exported



## SECTION 11

APPROVED, MARCH 11, 1943

NOTE On March 11, 1943, after affirmative votes of 407-6 in the House of Representatives and 82-0 in the Senate, the President signed the act extending the Lend Lease Act for one year

## APPENDIX II

## RUSSIAN MASTER LEND LEASE AGREEMENT \*

Agreement between the United States of America and the Union of Soviet Socialist Republics on the principles applying to mutual aid in the

aggression,

\* Master Lend Lease Agreements, in identical terms, have been con-

And whereas the Governments of the United States of America and the Union of Soviet Socialist Republics are mutually desirous of concluding now a preliminary agreement in regard to the provision of defense aid and in regard to certain considerations which shall be taken into account in determining such terms and conditions and the making of such an agreement has been in all respects duly authorized and all acts, conditions and formalities which it may have been necessary to perform, fulfill or execute prior to the making of such an agreement in conformity with the laws either of the United States of America or of the Union of Soviet Socialist Republics have been performed, fulfilled or executed as required,

The undersigned being duly authorized by their respective Governments for that purpose, have agreed as follows

#### ARTICLE I

The Government of the United States of America will continue to supply the Government of the Union of Soviet Socialist Republics with such defense articles, defense services, and defense information as the President of the United States of America shall authorize to be transferred or provided

#### ARTICLE II

The Government of the Union of Soviet Socialist Republics will continue to contribute to the defense of the United States of America and the strengthening thereof and will provide such articles, services, facilities or information as it may be in a position to supply

#### ARTICLE III

The Government of the Union of Soviet Socialist Republics will not without the consent of the President of the United States of America

Socialist Republics

#### ARTICLE IV

If, as a result of the transfer to the Government of the Union of Soviet Socialist Republics of any defense article or defense information, it becomes necessary for that Government to take any action or make any payment in order fully to protect any of the rights of a citizen of the

#### ARTICLE V

The Government of the Union of Soviet Socialist Republics will not

ARTICLE VI

In the first determination of the benefits of the goods, the United States of America

United States of America

ARTICLE VII

In the first determination of the benefits of the goods, the United States of America

directed to the expansion, by appropriate international and domestic

ARTICLE VIII

In the first determination of the benefits of the goods, the United States of America

For the Government of the United States of America

CORDELL HULL,  
Secretary of State of the United States of America

For the Government of the Union of Soviet Socialist Republics

MAXIM LITVINOFF,  
Ambassador of the Union of Soviet Socialist Republics  
at Washington.

## APPENDIX III

## RECIPROCAL AID AGREEMENT WITH UNITED KINGDOM\*

The Honorable CORDELL HULL,

*Secretary of State, United States Department of State,  
Washington, D. C.*

SIR In the United Nations declaration of January 1, 1942, the contracting governments pledged themselves to employ their full resources, military or economic, against those nations with which they are at war and in the Agreement of February 23, 1942, each contracting government undertook to provide the other with such articles, services, facilities or information useful in the prosecution of their common war undertaking

pursuant to common plans for winning the war

form of reciprocal aid so that the need of each Government for the

---

\* Reciprocal aid agreements have also been concluded by the United States with Australia, Belgium, Fighting France and later the French National Committee of Liberation, the Netherlands, and New Zealand

3 The Government of the United Kingdom will provide the United States or its armed forces with the following types of assistance as such reciprocal aid, when it is found that they can most effectively be procured in the United Kingdom or in the British Colonial Empire

- (a) States
- (b) admin
- establi
- ments
- paragraph 4

(a) States

4 The mutual application of the principles formulated in this note

facilitating the provision of reciprocal aid

HALIFAX

His Excellency the Right Honorable The Viscount HALIFAX, K.G.,  
British Ambassador

EXCELLENCY. I have the honor to acknowledge the receipt of Your Excellency's note of today's date concerning the principles and procedures



applicable to the provision of aid by the Government of the United Kingdom of Great Britain and Northern Ireland to the armed forces of the United States of America

In reply I wish to inform you that the Government of the United States agrees with the understanding of the Government of the United Kingdom of Great Britain and Northern Ireland as expressed in that note. In accordance with the suggestion contained therein, your note and this reply will be regarded as placing on record the understanding between our two Governments in this matter.

This further integration and strengthening of our common war effort gives me great satisfaction.

Accept, Sir, the renewed assurances of my highest consideration

CORDELL HULL,

*Secretary of State of the United States of America.*

Washington, D C

September 3rd, 1942.

# INDEX

- Acheson, Dean, 45  
 Acheson, Edward C., 235  
 Advisory Commission to the Council of National Defence *See* Defence Advisory Commission  
 Aggression, 17-18  
 Agricultural products, Lend-Lease, 1941-43, 236  
 Air bases, in Australia, 154  
   training Chinese pilots, 108  
 Air ferry route, Russia, 182-3  
 Airfields, Great Britain, 220-7  
 Air freight, 132  
 Air lanes, equipment of, 128  
   to Middle East, 130  
   trans-Atlantic, 128  
 Air raids, 203  
   flight preparation for, 224  
 Air route, Africa, 130-1  
   India-China, 159  
   trans-African, 132  
 Air Training School, Lahore, 164-5  
 Air Transport Command, financed by Lend-Lease, 129  
 Air transport, 131  
 Aircraft, Lend-Lease, 1941-43, 236  
 Airplane assembly plant, Great Britain, 203  
 Airplane design, attempt to standardize, 56  
 Airplane engine plant, Great Britain, 209  
 Airplane engines, 54  
   ordered by France, 29  
   Great Britain, 55  
   Value of orders, 32  
 Airplane parts, for China, 135-6  
   production, 54  
 Airplane production, U.S., 1939, 24  
   1941, 87  
   1942-3, 54  
   President announces goals, 24  
   ratio of U.S.-British needs, 53  
 Airplane repair depots, Middle East, 133  
 Airplanes, 43  
   American, in Great Britain, 222  
   China's need for, 106  
   ordered for, 107  
   delivered through Lend-Lease, 258  
   ferry service, 127-8  
   Great Britain, needs, 53-4  
   shipped to Great Britain, France, 1938, 33  
   to Australia, 155  
   to Egypt, 240  
 Airplanes *See also* Bombers, Flying fortresses  
 Airports, Australia, cost, 154-5  
 Airports, Great Britain, taken over by U.S., 221-3  
 Akuln Rear Admiral, 179  
 Albania, 18  
 Alexander, A. V., 204  
 Alexander, Sir Harold, Gen., 157  
 Allied Supply Council, 151  
 Allison engine, 54  
 Altoona, Pa., 74  
 America, S.S. (ship), 121  
 "America First Committee," 71  
 American Car and Foundry Co., 58  
 American Economic Mission, 160, 162  
 American forces, value of British aid to, 235  
 American Military Commission, 105  
 American Military Mission to China, 166  
 American Student Union, 75  
 American Volunteer Group, 107, 136  
   *See also* Flying Tigers  
 Ammunition, Lend-Lease, 1941-43, 236  
 Amtorg Trading Corp., 111  
 Andrews, Prime Minister, 227  
 Anglo-American Mission, 114  
 Anglo-French Coordinating Commission, established, 31  
 Anglo-French Purchasing Board established, 31  
 Appleby, Paul, 213  
 Appropriations, Army-Navy expansion, 24  
   Lend-Lease, 83, 99  
   second bill, 114  
 Armaments, available for transfer Great Britain, 35  
   production, 139  
   sale, 34-5  
   transfer handled by U.S. Steel, 35-4  
   signed, 37  
 Armaments *See also* Airplanes, Munitions, Tanks, War orders  
 Arms embargo, 30  
 Arnold, H. H., Gen., 26, 53  
 Arnstein, Daniel, 102  
 "Arsenal of democracy," 69  
 Ashorne Hill, 208  
 "Asiatic Bolshevism," 108  
 Astoria (ship), 156  
 "Atfero" *See* Airplanes, ferry service  
 Aubek, U.S.S. (ship), 42  
 Austin, Senator, 82  
 Australia, bases in, 148-9  
   bombers to, 147, 148  
   cost of airports, 154-5  
   danger to, 150-1  
   description, 152  
   Lend-Lease aid to, 155-6  
 Austria, 18  
 Bailieu, Clive, 203  
 Baldwin Locomotive Works, 5  
 Ball, George W., vii  
 Balloons, barrage, 143  
 Barbed wire, 177  
 Barkley, Senator, 70, 82  
   Introduces Lend-Lease bill, 7

- Bases, funds allocated to Great Britain for construction 126  
*Bataan* (ship), 193  
 Batt, William L., 67, 114 117 140  
*Bearn* (ship), 38  
 Beasley, J. A., 151  
 Beaverbrook, Lord 54 114 141  
 Belgium, 18  
 Belyaev, Maj.-Gen. 179  
 Beneš, Eduard, 193  
 Bevin, Ernest 205  
 Biggers, John D. 58, 67  
   "Black Twist Tobacco," 155-6  
 Blamey, Sir Thomas A., 151  
 Bloch-Lainé, Jean F., 31, 37  
 Bloom, Representative, 70  
   quoted, 263  
 Bombers reconnaissance, ordered by Great Britain, 14  
   See also Airplanes  
 Boots, to Russia, 178  
 Boykin, Samuel D., vii  
 Branch, U.S.S. (ship), 42  
 British Air Mission 25-6  
 British Ministry of War Transport, 37  
 British Purchasing Commission, 31  
   "British Restaurant," 219  
 British Shipping Mission, contracts placed, 121  
 Brown, Winthrop, 203  
 Buchanan, U.S.S. (ship) See *Campbelltown*  
   *H.M.S.* (ship)  
 Budd, Ralph, 23  
 Bullitt, William C., 200  
 Burma, 158  
 Burma Road, 100-3  
 Burns, James H., Gen. 89, 99, 100, 111, 113, 141  
  
*Campbelltown*, *H.M.S.* (ship), 42  
*Canberra* (ship), 156  
 Cannon, Representative, 99  
*Canton* (ship), 120  
 Casey, Richard 148  
   "Cash and carry," 31, 33  
 Cash contracts, 87  
   "Cash reimbursable Lend Lease," 143  
   See also Lend Lease  
 Catto, Lord, 205  
 Caves, used for Chinese arsenals 169  
 Chaney, James E., Maj.-Gen., 114  
 Chen, K. P., 26  
 Chennault, Claire L., Maj.-Gen., 105-8  
 Cherwell, Lord, 204  
 Chiang Kai-Shek, 107  
   quoted, 171  
 Childs, Thomas 38  
 China, 26-7  
   aeroplanes ordered, 107  
   and Universal Trading Corp., 28  
   barter agreement, Russia, 27-8  
   loans, 27-8  
   munitions, 167-8  
   resistance to aggression 26-7  
   supplies, 1941, 1942 102-3  
   held in Rangoon, 158  
   in warehouses, 167  
   routes closed 166  
   transport, 100-1  
  
 Chma, Air force, 106  
   training schools, 165  
   training by U.S., 168-9  
 China Defence Supplies, Inc., 100  
 China National Aviation Corp., 159  
 Chrysler 28  
 Chrysler Tank Arsenal, 59  
 Churchill, Winston, Prime Minister, 109  
   appeals for U.S. aid, 34  
   quoted, 36  
   E. R. Stettinius' visit to, 200-4  
   gift to, 212  
 Churchill, Mrs. Winston, 200  
 Churchill Hospital, 231  
 Civilian Supply Programme, objectives, 249-50  
 Clagett, Henry B., Gen., 106  
 Clothing, shortage of, N. Africa, 251  
 Cohen, Ben 44, 70  
   "Collective trustee," 47  
 Combined chiefs of staff, 141  
 Combined Food Board, 142  
 Combined Production and Resources Board, 142  
 Combined Raw Materials Board, 142  
 Combined Shipping Adjustment Board 142  
 Commissioner for Industrial Materials See Stettinius, E. R., Jr.  
 Committee to Defend America by Aiding the Allies 44, 71  
 Communications lines, Axis, 119  
 Conant, James B., 76  
   quoted, 75  
 Congressional Legislative Council, 70  
 Connally, Senator, 70  
 Connolly, Donald H., Maj.-Gen., 183  
 Continental Motors Corp., 59  
 Contracts, Foreign See War Orders  
 Convoys, attacked by U boats, 175  
   to N. Africa 248  
   to Russia 175-6  
 Coral Sea, Battle of, 151  
 Corps Franc d'Afrique, 254  
 Cowles, John 247  
 Cox, James M., 75  
 Cox, Oscar S., vii, 99, drafts Lend-Lease bill, 69  
 Coy, Wayne 113  
 Culbertson, Paul, 249  
 Cunningham, Sir Andrew, 254  
 Currie, Lauchlin, 100 166  
 Curtiss-Wright Corp., 56  
 Cutler, Lloyd, 249  
 Czechoslovakia, 18  
  
 Darlan, Admiral, 38  
 Davis, Chester C., 23  
 Davis, Harold 102  
 Davis, John W., 75  
 Davis, Norman, 231  
 Defence Advisory Commission, 23  
 Defence Aid Requirements Committee, 89  
 Defence programme, 24  
 Defence Supplies Corp. 116  
 Dehydrated foods, 96, 191  
 Dehydration See Food, processing  
 Denby, Charles, vii, 154  
 Denmark, 18

- Depots, repair and supply, 241  
 Destroyer-Naval base exchange, 41-9  
   attitudes toward, 44  
   Great Britain, 48-9  
   legality of, 44, 45, 48  
   terms, 48  
 Destroyers, lost at Dunkirk, 43  
 Dewar, Michael, 58  
 Dewey, Thomas E., 75  
 Dill, Sir John, 141  
 Division of Defence Aid Reports,  
   89-90  
   Responsible for early aid to Russia  
   111  
 "Dollar Diplomacy," 163  
 Dollar resources, Great Britain, de-  
   cline of, 60-4  
   illus., 62-3  
 Douglas, Donald, 41  
 Douglas, Lewis, 184  
 Douglas Aircraft Co., 41  
   plane assembly plant, Abadan, 184  
 Dover, 34  
 Dragon, *H M S* (ship), 196  
 Dunkirk, 19, 34  
 Dunkirk, destroyers lost at, 43  
 Dutch Purchasing Commission, 50  
 East, John D., vii  
 Eastern Prince (ship), 37  
 Ecker, Frederic W., vii 163  
 Economic collaboration, post war  
   plans, 270  
 Eden, Anthony, 204  
 Eggs, powdered, to Great Britain, 217  
 Egypt, planes and supplies to, 240  
 Ehrenburg Ilya, quoted, 175  
 Eisenhower, Dwight D., Gen., 204  
 Elliott, Harriett, 23  
 Emerson, Rupert, vii  
 Engines, See Airplane engines  
 Ethiopia, 18  
 European War danger to U.S., 66-7  
 Export Import Bank, China, loan  
   27-8, 50  
   South America, loan, 46  
 Fairless, Benjamin F., 36, 37  
 Farm lands, Great Britain, 214  
 Farm machinery, to Great Britain,  
   214-5  
 Farm production See Food produc-  
   tion programme  
 Faymonville, Philip R., Col., 111  
 Ferguson, Charles A., vii 153  
 Ferrying service See Airplanes ferry  
   service  
 Flying fortresses, 134-5  
 Flying Tigers, 136  
   See also American Volunteer Group  
 Foley, E. H., 69  
 Food, distribution, Great Britain,  
   218-9  
   in Russia, 190-2  
   Lend-Leased, 1941-43, 236  
   processing, 95  
   production, 93-5  
   Australia, 152-4  
   Great Britain, 212-18  
   Middle East, 243  
   N Africa, 250-1  
   Food shortage, Great Britain, 90  
   supply, under Lend-Lease, 191-2,  
   264  
   for U.S. troops in Australia, 153  
   to Great Britain, 90-1  
 "Food for Freedom" programme, 94  
 Food Requirements and Allocations  
   Committee, 263  
 Foreign Affairs Committee, House, 74,  
   82  
 Foreign orders See Airplane engines:  
   Airplanes, War orders  
 Foreign Relations Committee, Senate,  
   74  
 Forrestal, Under Secretary, 115  
 France Airplanes ordered, 1939, 29  
   commitments in U.S., 39  
   delivery of planes to, 33  
   fall of, danger, 38-9  
   orders placed, 26  
   taken over by Great Britain, 40-1  
   transfer of planes to, 38  
 France Plane purchasing programme,  
   See French Air Mission  
 Frank, Walter H., Gen., 220  
 Free Corps of Africa See Corps  
   Franc d'Afrique  
 Freedom of Speech, v  
 French Air Commission British  
   negotiations with, 39-40  
 French Air Mission Orders placed,  
   1939, 29  
 French purchasing agencies See  
   Anglo-French Purchasing  
   Board  
 Gale, Sir Humphrey, Maj.-Gen., 249  
 "Garden hose story," F. D. Roose-  
   velt, 17, illus. Lend Lease, 19  
 General Motors, 28  
 George, Senator, 70  
   quoted, 267, 268-9  
 Giraud, Henri, Gen., 22  
 Gohkov, Philip I., Gen., 112  
 Governments in Exile, 1934  
   air force, 196-9  
   armies, 199  
   merchant marine, 194  
 Grady, Henry F., 160  
 Grady Mission See American Eco-  
   nomic Mission  
 Great Britain, airplanes ordered, 33,  
   61  
   airplanes and supplies to, 87-8  
   dependence on U.S., 67  
   financial resources, 61-4  
   food to, 90-1  
   production, 212-18  
   shortage, 90  
   supply, 218  
   Lend Lease to, illus., 202  
   need for timber and rubber pro-  
   ducts, 207-8  
   need for supplies, 50  
   plan to purchase U.S. equipment,  
   57  
   planes needed monthly, 53-4  
   raw materials, 205  
   takes over French contracts, 39-41  
   tank engines ordered, 59  
   tank ordered, 58-9, 83

- Great Britain trade needs, 205-6  
transfer of PT boats to, 84  
tribute to navy 175  
war liabilities 206
- Great Britain Air Mission. *See* British Air Mission
- Great Britain. Gratitude for Lend-Lease, 201
- Great Britain, *see also* Anglo French Air Mission
- "Greater East Asia Co-Prosperity Sphere," 77
- Greece transfer of munitions to, 85
- Green, George A., Col., 220
- Greer (ship), 126
- Griffin, William V. vii
- Gross, Robert, 25
- Grosvenor Square, 210
- H. R. 1776, 71. *See also* Lend Lease
- Haas, Victor H., 104
- Hackworth Green, 70
- Halifax, Lord, 268
- Halsey, Admiral, 151
- Harriman, W. Averell, vii, 67, 114, 204
- Harris, A. T., Air Marshal, 25, 141
- Harrison, Senator, 70
- Hartle, Russel P., Maj-Gen., 227
- "Harvards," 25
- Havana Conference, 47
- Hazard, John N., vii, 111
- Hellman, Marco, 102
- Henderson, Leon, 23, 52
- Hendon Airfield, 220
- Hendrickson, Roy F., 89
- Henke, Milburn, 227
- Hillman, Sidney, 23
- Hines, Charles B., Gen., 111
- Holland, 18
- Hood, Clifford, 116
- Hoover, Herbert, 75
- Hopkins, Harry L., 24, 89, 100, 113, 140, 141, 204  
responsible for Lend Lease administration, 89  
visit to Moscow, 113
- Hopkins, Ira C., vii
- Hornet (ship), 170
- Hudson R. S., 213
- Hudson bomber, 26
- Hull, Cordell, 27, 66-7, 69  
quoted, 76, 79-80
- Hutchins, Robert M., quoted, 75
- Iceland, vital to defence of U.S., 125
- Ickes Harold L., 44
- Illustrious*, H. M. S. (ship), 118-20
- India, attitude towards Lend-Lease, 163-4  
strategic importance of, 162-3  
supplies to, 159-60  
supply routes to, 160
- Indo-China Railway, 103  
*See also* Railways, China
- Industrial production, U.S.: distribution through Lend-Lease, 260-1
- Industrial production, India, 163
- Industrial programme, Australia, 152-3
- Russia, 188, 9
- Industrial supplies to Russia, 188
- Industries aided by Lend-Lease, 93  
of China, 169
- Industry, Effect of Lend-Lease on, 92
- Infant Welfare Centre, 219
- Inter-American Defence Board, 143
- International Law and Lend-Lease, 79
- Iran, 179-80
- Iran, Army. *See* Native Iranian Army
- Iranian gendarmerie, 184
- Iranian railway, 180-1
- "Iransovtrans," 185
- Iron and Steel Control of Great Britain, 209
- Isaac Sweets (ship), 196
- Jackson, Robert H., 44, 70
- Jacquin, Col., 39
- Japan, 43  
attack on Pearl Harbour, 135
- Java, Japanese landing on, 149
- Johnson, Hugh S., 76
- Johnson, Luther, 70
- Joint Aircraft Committee, 55-6
- Jones, Jesse, 115
- Juran, Joseph M., vii
- Kaiser Henry J., 121
- Karachi, 161
- Kellogg-Briand Pact, 18, 34, 45, 80
- Keynes, Lord, 205
- Kidd, Philip, 184
- King, Admiral, 204
- King, Mackenzie, 47
- Kink Hoakon VII* (ship), 195
- Knollenberg, Bernhard, vii
- Knox Secretary, 53, 66, 69, 75, 115
- Knudsen, William, 23, 24, 52, 53, 58, 66, 67, 75, 115, 162
- Kurth, Harry M., vii
- La Guardia Mayor, 132
- Lahore, 164
- Land, Admiral, 121  
letter from President quoted, 174
- London, Alfred, 75
- Lansley* (ship), 149
- "Law of mutuality," 79
- Layton, Sir Walter, 56
- Leather to Russia, 178
- Leathers, Lord, 205
- Ledo Road, 171
- Lend Lease, 46, 68, 73, 80, 86, 92-3  
aid from U.S., 258-67  
breakdown, 266  
aid to Great Britain, 202  
to Russia, 185  
allocations, 92  
appropriations, 83, 99, 114  
attitudes toward, 68-9, 75  
authority to President, 75  
defence articles, 74, 272  
extended, 275  
funds, 120, 129, 131  
opposition to, 78, 82  
origin of plan, 19, 65-6
- R. I. Stettinius, Jr., appointed, 97, 8

- Lend Lease total cost 236 257 8  
 U.S. entry in war, effect on 136-7  
 Lend Lease *See also* Master Lend Lease Agreements  
 Lend Lease bill 71  
   debated 71-83  
   drafted 69-70  
   explained by President 70-1  
   hearings 74  
   signed 20, 83  
   text 272 5  
   vote 21, 82 3  
 Lewis Essington 152  
 Lima Conference 46  
 Lima Locomotive Works 59  
 Lindbergh Chas A. Col 76  
 Little Sir Charles 141  
 Litvinov, Maxim 268  
 Livestock Great Britain 214  
 Llewellyn Col 204  
 Loans to allies World War I illus 81  
 Lockheed Company, 25  
 Locust plague Middle East 242  
 London Protocol 192  
 Londonderry destroyer base 127  
 London Naval Treaty 43  
 Lorries, ordered for China 28  
 Lorry fleet Iran, 186  
 Lothian Lord 43  
 Lovett Asst Secy 115  
 Lukashev Constantin 179  
 Luxembourg 18  
 Lynch Robert J vii  
 Lyttelton Oliver 141 207  
 McArthur, General 150 1  
 McCabe Thomas B. vii  
 McCalla U.S.S. (ship) 42  
 McCormack Representative 70  
   introduces Lend Lease bill 71  
 Macgregor L. R. 148  
 Machinery, Lend Lease 1941-43 236  
 Mack Clifton L. 89  
 Macon U.S.S. (ship) 42  
 Magruder John Gen 105 166  
 Malaria 104 137  
 Malaya (ship), 1,0  
 Manchuria 17  
 Manufactures Middle East 243  
 Maritime Commission vi  
 Marshall George C. Gen 23 24  
   112 115 141 204  
   approves armaments transfer 35  
   quoted, 24 148 4  
 Martha Crown Princess 195  
 Martin, Laurence J. vii  
 Martin Representative 83  
 Master Lend Lease Agreement  
   Russia 275  
 Materials and manufactures, miscellaneous, Lend Lease 1941-43 216  
 Materials, strategic, allocation plan 207  
 Maude U.S.S. (ship) 42  
 Merchant seamen receive bonuses from Russia 175  
 Metals, Lend Lease, 1941-43 236  
 Middle East air forces 244  
 airplane repair depots, 133  
   supplies to 122-4  
   supply routes 123  
 Military bases Australia 148  
 Milk evaporated to Great Britain, 217  
 Miller H. C. L., vii  
 Milkenbach A. C. 184  
 Mingaladon 107  
 Molotov Vyacheslav M. 114  
 Monnet Jean 26 28 31  
   *See also* French Air Mission  
 Montana (ship) 126  
 Moore Richard Maj Gen 35  
 Morgenthau Henry L. 28 52 53 54  
   56, 69 75 77  
 Morrell Ben 126  
 Moscow Protocol 114-15 172  
   second *see* Washington Protocol  
   third *see* London Protocol  
 Motor vehicles Lend Lease 1941-43 236  
 Mounbatten, Lord Louis 119 172  
 Mow P. T. Gen 105  
 Munitions 35 68  
   allocation committee 140  
   distribution of 61  
   procurement 142  
   to Australia 155  
   to China 167  
   to India 163  
   to Russia 176  
   transfer to Greece, 85  
 Munitions *See also* Armaments  
   War orders  
 Munitions industry U.S. 50-2  
   Australia 152  
   China 169  
 Munitions Assignment Board vi 141  
 Munitions Assignment Committee,  
   Ind 3 163  
 Mutual Aid Agreements 145  
 Nash Walter 148  
 National Defence Advisory Com-  
   mission 57  
 National Student Federation of  
   America, 75  
 National Guard, 49  
 Native Iranian Army 183  
 Naval bases Iceland 126  
   in Scotland and Ireland 127  
   *See also* Destroyer-Naval base  
   exchange  
 Nelson Donald 66 67 115 204  
   letter from President quoted, 174  
 Netherlands East Indies, value of  
   supplies to 150  
 Netherlands Indies 40 147  
 Neutrality and Lend Lease 77  
 Neutrality act *See* Arms embargo  
   New order (in Europe and Asia)  
   49  
 New York Times, letter to editor  
   alluded to 45  
 New Zealand danger to 150-1  
 Nebeker Kenneth, 76  
 Non Ferrous Metals Control 210  
 North Africa, economic conditions in,  
   1942, 247 8  
   eligible for Lend Lease 245  
   shortage of food, cloth &c. 250-2  
   supplies to 250 3  
 North African Economic Board, 249

- North African Expedition, Lend-Lease equipment in, 238  
 Norway 18  
   vital to defence, 194  
 North American Aviation Corporation, 25  
 Notman, Arthur, 208  
 Noyes Charles, 221  
  
 O'Boyle, John, 150  
 Office of Lend-Lease Administration, vi-vii, 98  
 Olds, Robert, Gen, 135  
 Olds, Irving S., 36, 37  
 Oliphant, Herman, 28  
 Orchard, John E., vi  
 Ordnance, Lend Lease, 1941-43, 236  
 Ournansky, Constantin A., 112, 113  
 Ozawkie, Kan., 74  
  
 Pacific War Council, 143  
 Packard Motor Co., contract to produce airplane engines, 55  
 Pan-American Airways, contracts for air routes 131  
   training school, 127-8  
 Patterson, Robert, 162  
   letter to Emil Schram, quoted, 59  
 Pepper, Claude, 44  
 Permanent Joint Board of Defence, established, 47  
 Pershing, General, 44  
 Persia. See Iran  
 Persian Gulf programme, 124  
 Persian Gulf Service Command, 183  
 Peter, King, 86  
 Petroleum products, Lend Leased, 1941-43, 236  
 Philippine Clipper, 135  
 Phillips, Sir Frederick, 64  
 Phillips, William, 164  
 Pittman Act, 46  
 Poland, 18  
 Pope, James W., vii  
 Port expansion project, 181  
 Portal, Lord, 207  
 Pratt, John Lee, vii  
 Pratt & Whitney, 26, 29  
   engines ordered by Congress, 29  
 President's Liaison Committee, 31, 52  
 Pressed Steel Car Co., 59  
 Prince of Wales (ship), 136  
 Priorities Board, 52  
 Procurement, U.S. plans for, 28  
 "PT Boats," 84  
 Pullman Standard Car Manufacturing Co., 59  
 Purvis, Arthur, 31, 37-40, 52-3, 59, 113  
  
*Queen Elizabeth* (ship), 150  
 Quonset Point, R. I., 126  
  
 Railway cars, Great Britain, for Iran, 181  
 Railways, China, 103-4  
   funds allocated for, 104  
   India, 162  
   Iran, 180-1  
   Middle East, 124-5  
  
 Raritan N.J., armaments loaded at, 36  
 Rationing, food, Russia, 191  
 Raw materials 198  
   for Russia, 181, 190  
   problem, 140  
 Raw materials, interim committee, 140  
 Ray, J. Franklin Jr., vii, 102, 166  
 Rayburn, (Speaker), 70  
 Raynor, Hayden, vii  
 Rebmann, Ruhland, Jr., vii  
 Reciprocal aid. See Reverse Lend-Lease  
 Reciprocal Aid Agreement, 278  
 Reconstruction Finance Corp., 59  
 Red Air Force, impression of American planes, 177  
 Red Army, Food, 192  
 Red Sea projects 124  
 Reed, Philip D., 204  
 Reeves, J. M., Rear Adm., 89  
 Repin A. K., Maj.-Gen., 112  
 Republic Steel Corp., 59  
 Repulse (ship), 136  
 Resolution (ship), 120  
 Reverse Lend-Lease, 144, 227-37  
   Australia, 155  
   Great Britain, 221, 228, 246-7  
   India, 164  
   records, 234-5  
 Reynaud, Paul, Premier, 38, 39  
   resigns, 40  
 Rickenbacker, Capt "Eddie," 176  
 Robertson, Walter S., vii, 153  
 Rodney (ship), 120  
 Rolls-Royce Merlin engine, 54  
 Roosevelt, F. D., President, 30, 47, 109, 147, 183  
   announces plane production goals, 24  
   appoints E. R. Stettinius, Jr., Administrator, Lend Lease 98  
   Commissioner for Industrial Raw Materials, 23  
   asks army-navy increase, 49  
   authority under Lend Lease, 73  
   defines defence policy, 67-8  
   describes Lend-Lease plan, 68, 70-1  
   issues directives, 84-5  
   letters directing supplies to Russia, 174  
   quoted, 19, 22, 24, 48, 60, 83, 120, 137  
   suggests lease of ships, 65  
   suggests loan to Russia, 117-18  
   warning to axis submarines, 126  
 Rostochalk, Alexander, 179  
 Rousselot, F. W., 231  
 Royal Sovereign (ship), 120  
 Rubber, 207  
 Rublee, George, 45  
 "Rule of thumb," 60  
 Russia, 108, 181  
   convoys, 175  
   eligible for aid, 114  
   first Protocol, 115  
   food, 191-2  
   loan, 117-18  
   supplies, 173-7, 181, 184  
   kinds, 187-8

# INDEX

- Russia, supplies, programme, 113
  - routes, 172-3
  - value, 113, 178
- seamen, allied, bonuses, 175
- Russia. *See also* Soviet Military Mission
- Russian Aid Committee, 113
- Russian Protocol. *See* Moscow Protocol
- St Quentin, Count, 43
- Salter, Sir Arthur, 205
- Schram, Emil, letter from Robert Patterson, quoted, 59
- Schwartzkopf, H. N., Col., 184
- Scrap collection, Great Britain, 210
- Selective Service Act, 49
- Self, Sir Henry, 25, 38
- Sessa (ship), 126
- Shingle, Don G., Col., 183
- Ship repairs, 120
- Shipbuilding industry, Great Britain, 121
- U.S., 120-2
- Shipping, difficulties, 173
  - losses, 43, 175, 195-6
  - to N. Africa, 250
- Short, Livingston L., vii, 246, 249
- Singlair, Sir Archibald, 204, 227
- Sicily invaded, 22
- Simmons, William M., vii
- Simovich, Gen., 86
- Smith, Alden, 150
- Smith, Alfred E., 75
- Smith, Blackwell, vii, 153
- Smith, Gerald L., 76
- Somervell, Gen., 184
- Soong, T. Y., 50, 100, 268
- South America, 46
- Soviet-British-Iranian agreement, 125
- Soviet Military Mission, 112
- Soviet Protocol. *See* Moscow Protocol
- Spain, 18
- Spalding, George, Gen., vii, 89
- Spaulding, Sidney P., 89
- Spiegelberg, Geo. A., Major, 232
- Stalin, accepts loan from U.S., 117-18
- Standardization. *See* Airplane design
- Standley, W. H., Admiral, 114
- Stark, Harold R., Admiral, 23, 24, 43, 140
  - Harold E., quoted, 75
  - Corp. of Bengal, 163
- Industry, Great Britain, 208
- Stettinius, E. R., Jr., 65
  - appointed Commissioner for Industrial Materials, 23
  - duties, 52
- Lend-Lease Administrator, 97-8
- opinion of Russian officials, 179
- report to Congress, 144
- visit with Churchill, 200-4
- gift, 211-12
- Stowell, Joseph W., 157
- Stimson, Henry L., 53, 56, 66, 75, 77-9
  - letter to Gen. George, quoted, 33
  - quoted, 77, 80
- Stimson-Layton Agreement, 57
- Strategy, Pacific area, 148
- Supplies, 103, 160, 174
  - allocation of, 143
  - China, 102, 103
  - Egypt, 240
  - Middle East, 122-4
  - N. Africa, 248-56
  - Reverse Lend-Lease, 232-3
  - Russia, 181, 187-8
  - value, 113
- Supply routes, China, 167-8
  - Middle East, 123
  - Russia, 172
- Supply strategy, 140
- Surcouf (ship), 120
- Taber, Representative, 99
- Tank engines, 59
- Tanks, Lend-Lease, 1941-43, 236
  - production, 88
  - to Australia, 155
  - to Egypt, 240-1
  - to Great Britain, 88
  - to Russia, 176
- U.S.-Great Britain designs, 57-9
- Tedder, Sir Arthur, 254
- Thacher, Thomas D., 45
- Thailand, 157
- Thomas, Norman, 75
- Thompson, Dorothy, 76
- Thunderbird Field, Ariz., 165
- Tillman, U.S.S. (ship), 196
- Timber, Great Britain, need, 248-9
- Todd Shipyards, 121
- Tokyo, bombed, Apr. 18, 1942, 170
- Tongsoo, 107
- Tractors, to Great Britain, 215
- Trans Iranian Railway, American equipment on, 184
- Transport China, 100, 170
  - India, 162
  - Iran, 180
  - N. Africa, 253
- Travers Island, 195
- Trippe, Juan T., 131
- Tung oil, 27
- Tunisia, 247-8
- United Kingdom Commercial Corporation, 181, 186
- United Nations Declaration, 138
- United States, Preparation for war, 1941, 139-40
- U.S. Army, 49
  - first soldier on European soil, 227
  - food supply and equipment, Australia, 153-4
  - increase 1939-1941, 139
  - Troops in Australia, 148
- U.S. Army Officers training Chinese Army, 168-9
- U.S. Army Road Transport Command, 186
- U.S. Army's Air Ferry Command. *See* Air Transport Command
- U.S. Armed forces, supplies in Great Britain, 229-31
- U.S. Congress, Special session 1939, 30
- U.S. Dept. of Agriculture, vi, 91
- U.S. Dept. of State, to negotiate Lend-Lease agreements, vi, 98



# WORLD SHIPPING

529

TEBOOK ON SEAWAYS AND SEA TRADE  
A MARITIME GEOGRAPHY OF ROUTES,  
TS RIVERS CANALS AND CARGOES

Revised Edition

Contents are vital and inspiring especially at a time when thoughts

...ire has

...e pages

...maps

and descriptive diagrams —Great Britain and the East

Compendium of facts about ships and shipping it would

to find elsewhere so much knowledge contained in

although intended primarily for the general public

it will be found in the pocket of many who are

going as the author himself —Marine Engineering

## WARSHIPS AT

SEAL NOTEBOOK

Y PROFILE SON

PAL WARSHIP

an admiral

is doing

sufficiently  
subject of great

al Jane's Fighting  
to know about the

HARDY

ions by Laurence Dunn

# Bharatiya Vidya Bhavan's Granthagar

## BOOK CARD

Call No. 940.5332/STE/12431 Title \_\_\_\_\_

Lend: Lend

Author E. R. Stellinius Jr.

Date of Issue	Borrower's No.	Date of Issue	Borrower's No.
14 JAN 1992	188		

BHAVAN'S LIBRARY

Kulapati K. M. Munshi Marg

BOMBAY-400 007

940.5332

STE